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ABSTRACT

This document contains 13 papers on advances in service-learning research. The following papers are included: "Introduction" (Andrew Furco, Shelley H. Billig); "Community Service and Service-Learning in America: The State of the Art" (Ivor Pritchard); "Is Service-Learning Really Better Than Community Service? A Study of High School Service Program Outcomes" (Andrew Furco); "Civil Society, Social Trust, and the Implementation of Service-Learning" (James C. Toole); "An Application of Developmental-Contextualism to Service-Learning" (Elizabeth Hill Warter, Jennifer M. Grossman); "Using Program Theory To Build and Evaluate Service-Learning Programs" (Donald B. Yarbrough, Rahima C. Wade); "Theories Guiding Outcomes for Action Research for Service-Learning Programs" (Jean L. Schensul, Marlene Berg, Monica Brase); "Beyond Surveys: Using the Problem-Solving Interview to Assess the Impact of Service-Learning on Understanding and Critical Thinking" (Janet Eyler, Dwight E. Giles); "Methodological Challenges and Potential Solutions for the Incorporation of Sound Community-Based Research into Service-Learning" (Luciana Lagana, Maureen S. Rubin); "Service-Learning as Qualitative Research: Creating Curriculum from Inquiry" (Robert Shumer); "Impact of Service-Learning on Civic Attitudes and Behaviors of Middle and High School Youth: Findings from Three National Evaluations" (Alan Melchior, Lawrence Neil Bailis); "Service-Learning in Teacher Education: A Consideration of Qualitative and Quantitative Outcomes" (Susan Root, Jane Callahan, Jungsywan Sepanski); "Adoption, Implementation, and Sustainability of K-12 Service-Learning" (Shelley H. Billig); and

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"Research Agenda for K-12 Service-Learning: A Proposal to the Field" (Shelley H. Billig, Andrew Furco). All papers include substantial bibliographies. (MN)

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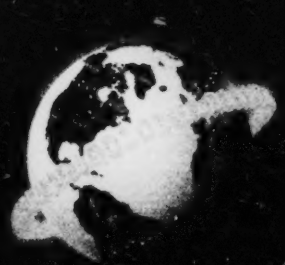
A VOLUME IN ADVANCES IN SERVICE-LEARNING RESEARCH



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Service-Learning: The Essence of the Pedagogy

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edited by

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Shelley H. Billig

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INTRODUCTION

The recent groundswell of service-learning activity in K-12 and higher education has sparked much interest among practitioners, policy makers, and researchers in gaining a better understanding of the nature of service-learning practice and its effects on students, teachers, institutions, and communities. For the most part, the findings that have emerged from studies of service-learning have shown promising results regarding service-learning's impact on improved student learning, enhanced community development, and school improvement.

However, despite a growing number of research studies in the field, the research on service-learning remains scant. Indeed, much of the existing research has only begun to scratch the surface regarding the important issues that surround service-learning. For example, while we know what the effects of service-learning might be on students, we know very little about *how* service-learning affects students. While we know that service-learning has the potential to change the civic culture of a school, we do not know what conditions need to be present or what kinds of service-learning activities need to be promoted in order for a school culture to change. How is service-learning best implemented and sustained? For whom is service-learning most beneficial? How do we best go about studying service-learning? These are the types of questions that the service-learning field needs to have researched. These questions can only be answered fully through the completion of well-designed, comprehensive, and sophisticated research studies. In this regard, the call is not only for *more* service-learning research, but also for *better* research.

The *Advances in Service-Learning Research* book series was established to initiate the publication of a set of comprehensive research volumes that would present and discuss a wide range of issues in this broad field called service-learning. Service-learning is a multifaceted pedagogy that crosses

all levels of schooling, has potential relevance to all academic and professional disciplines, is connected to a range of dynamic social issues, and operates within a broad range of community contexts. In terms of research, there is much terrain to cover before a full understanding of service-learning can be achieved. This volume, the first in the annual book series, explores various themes, issues, and answers that bring us one step closer to understanding the essence of service-learning.

The chapters of this volume focus on a broad range of topics that address a variety of research issues on service-learning in K-12 education, teacher education, and higher education. Through a wide-scoped research lens, the volume explores definitional foundations of service-learning, theoretical issues regarding service-learning, the impacts of service-learning, and methodological approaches to studying service-learning. Collectively, the chapters of the book provide varying and, at times, opposing perspectives on some of the critical issues regarding service-learning research and practice.

The volume is divided into four sections. The first section, *Defining the Essence of Service-Learning,* explores the variations in the definition of service-learning and the implications the varying definitions have on the study and practice of service-learning. In the first chapter of this section, *Community Service and Service-Learning in America: The State of the Art,* Ivor Pritchard explores the growth of service programs in K-12 education and discusses the challenges in identifying a common definition for service-learning. In the subsequent chapter, Andrew Furco considers the various definitions of different types of school-sponsored service programs in, *Is Service-Learning Really Better than Community Service? A Study of High School Service Program Outcomes.* He presents the findings of an investigation of the effects of community service, service-learning, and service-based internship programs on high school students' academic, social, personal, ethical, civic, and career development. These chapters discuss the amorphous nature of service-learning, both in terms of its definition and practice and provide the context for identifying the various theoretical lenses through which service-learning might be viewed.

The second section, *Theoretical Approaches to Understanding Service-Learning,* begins with a chapter by James Toole entitled, *Civil Society, Social Trust, and the Implementation of Service-Learning.* In this chapter, Toole explores social trust theory and its importance in service-learning partnership development. In the following chapter, *An Application of Developmental-Contextualism to Service-Learning,* Elizabeth Hill Warter and Jennifer Grossman explore the ways in which the theory of development-contextualism has relevance to service-learning in higher education. This chapter is followed by, *Using Program Theory to Build and Evaluate Service-Learning Programs,* in which Donald Yarbrough and Rahima Wade present a framework using program theory as a means to assess the quality and outcomes of service-learning programs. The second section ends with a look at how service-

learning can be used as an approach to conduct action research with a chapter by Jean Schensul, Marlene Berg, and Monica Brase entitled, *Theories Guiding Outcomes for Action Research for Service-Learning.*

The third section of the volume, *Methodological Approaches to Studying Service-Learning,* begins by highlighting the need for the employment of more appropriate methodologies in the study of service-learning. In *Beyond Surveys: Using the Problem Solving Interview to Assess the Impact of Service-Learning on Understanding and Critical Thinking,* Janet Eyler and Dwight E. Giles Jr. articulate the importance of utilizing more appropriate measures that can more fully capture the cognitive development of students engaged in service-learning. The last two chapters in this section, *Methodological Challenges and Potential Solutions for the Incorporation of Sound Community-Based Research into Service-Learning* by Luciana Lagana' and Maureen S. Rubin and *Service-Learning as Qualitative Research: Creating Curriculum from Inquiry* by Robert Shumer, present models for using service-learning as a methodology for conducting research. These two chapters explore how the engagement of students in K-12 and higher education service-learning activities, respectively, provide students with opportunities to develop and practice research skills.

The last section of the volume, *Impacts of Service-Learning,* presents discussions on a variety of service-learning outcomes for K-12 students, pre-service teacher education students, and K-12 schools. In the chapter, *Impact of Service-Learning on Civic Attitudes and Behaviors of Middle and High School Youth: Findings from Three National Evaluations,* Alan Melchior and Lawrence Bailis discuss the findings from three major evaluations of national service-learning initiatives and the value of service-learning as a tool for the civic development of young people. In the next chapter, Susan Root, Jane Callahan, and Jungsywan Sepanski present the findings from their multi-site study of students in teacher education programs. In this chapter, entitled *Service-Learning in Teacher Education: A Consideration of Qualitative and Quantitative Outcomes,* the authors provide a discussion on the effects of service-learning on the pre-service teachers' teaching efficacy, commitment to teaching, service ethic of teaching, acceptance of diversity, and their intent to use service-learning in their own classrooms. The section on service-learning impacts concludes with a chapter by Shelley Billig, which presents the findings from a multi-site study that explored dimensions of K-12 service-learning initiation and ssustainability. The chapter, *Adoption, Implementation, and Sustainability of K-12 Service-Learning,* presents a discussion on the factors that play the greatest role in sustaining service-learning in K-12 schools over time.

Concluding the volume is an Epilogue by Shelley Billig and Andre Furco that looks to the future and the areas of service-learning that need to be explored further, especially in the area of K-12 service-learning. *Research Agenda for K-12 Service-Learning: A Proposal to the Field,* provides list of the research questions that can be used to guide future studies of service-learning.

The chapters of this volume present multiple perspectives on the ways service-learning might be practiced and studied. While the chapters help answer some important questions about service-learning, they reveal that much about service-learning remains unknown. By having future research efforts build on the ideas, findings, and recommendations presented in this volume, we can begin to move one step closer to more fully understanding the essence of service-learning.

ACKNOWLEDGMENTS

We wish to express our deep appreciation to all the individuals who made important and substantial contributions to this volume. We especially thank all of the authors for their valuable contributions to the book and to all the peer reviewers who selected the chapters for this monograph.

We wish to thank the W. K. Kellogg Foundation for its generous support of the *Learning in Deed* Initiative. The *Learning in Deed* Initiative supported the development of K-12 Service-Learning Research Agenda presented in the last chapter and it provided the impetus to explore the development of the *Advances in Service-Learning Research* annual book series.

We wish to thank the members of our respective staffs, whose assistance in the development and completion of this volume was invaluable. We thank the members of UC Berkeley's Service-Learning Research & Development Center staff and the members of the Service-Learning Team at RMC Research Corporation. We wish to express deep appreciation and special thanks to Mary Ann Strassner of RMC Research for providing us with unparalleled editing expertise and untiring assistance.

Finally, we wish to thank and acknowledge George Johnson of Information Age Publishing for making this volume and the entire *Advances in Service-Learning Research* book series possible.

—Andrew Furco and Shelley H. Billig

Part I

DEFINING THE ESSENCE OF SERVICE-LEARNING

CHAPTER 1

COMMUNITY SERVICE AND SERVICE-LEARNING IN AMERICA:

THE STATE OF THE ART[1]

Ivor A. Pritchard

INTRODUCTION

Many American students participate in school-based service activities designed to benefit both the community and the students. Some of these activities are called *community service;* some are called *service-learning.* While some people use the terms interchangeably, others insist that the two are quite distinct. Researchers and practitioners are divided, both among themselves and between each other, about what is community service, what is service-learning, and whether there is any difference between them.

What is the significance of the dispute about these labels? Is it merely a disagreement about words, definitions, and professional posturing? Or does it reflect important disagreements about good educational practice? Who is doing community service or service-learning? What are they doing? Why are educators supporting these activities? Where do these activities stand in relation to current standards-based reform? What options might

practitioners consider for improving the quality of their practice? How can research contribute to those efforts?

Fortunately, recent national level research studies provide illuminating data about these questions. The data enable us to look at the magnitude of the issues, and to compare the issues raised in academic debates with the current state of practice in American education. And they also provide a starting point for the consideration of how the qualities of community service and service-learning activities may influence how well these activities fare in the current climate of standards-based education reform. Hopefully, the exploration of these questions will draw attention to important use-inspired research issues in this area.

THE SERVICE MOVEMENT

The United States has a tradition of people organizing efforts to serve public interests. In his famous nineteenth century study of American society, de Tocqueville noted Americans' habit of forming voluntary associations to advance their own and the community's interests. DeTocqueville suggested that such associations were crucial to the vitality of American society, pointing out that their activities served to shape the participants' recognition of the coincidence of personal and public interest, which he called "the principle of interest rightly understood" (de Tocqueville, 1961).

Many of these voluntary associations did what we might now call *community service.* The twentieth century saw many large-scale efforts to enlist young people in public service. In the 1930s, the California Conservation Corps was a New Deal effort to improve both the quality of the environment and the quality of the three million young men who did the improving (Janowitz, 1983). In later decades, the Peace Corps and VISTA programs similarly sought to benefit volunteers who were willing to work for the benefit of others in communities throughout the United States and abroad. Religious institutions and countless other youth and community organizations also sponsored and directed activities that were both personally rewarding to the young people doing them and beneficial to the public.

In the last decade of the twentieth century, several national-scale initiatives were launched that reflected renewed interest in service. The 1989 Charlottesville Summit of the President and the Governors led to a set of National Education Goals including a goal directed toward Student Achievement and Citizenship. The goal included as an objective that

> All students will be involved in activities that promote and demonstrate good citizenship, community service, and personal responsibility. (U.S. Department of Education, 1990)

Other federal support for service activities has been reflected in policy initiatives including the *National and Community Service Act of 1990*, the *Serve America Program* and the *National and Community Service Trust Act of 1993*, and the *Learn and Serve America Program*. States and private sector organizations have also demonstrated interest in supporting such activities. For example, in 1999 the W. K. Kellogg Foundation committed $13 million to *Learning in Deed*, a four-year initiative designed to increase support for service-learning in American schools.[2] Many service activities receive outside sponsorship, but it is also true that a large majority of schools currently administer their community service or service-learning activities with their own resources. The 1999 *National Student Service-Learning and Community Service Survey (S&CS)* found that 84 percent of school administrators whose schools had community service or service-learning activities reported no outside funding to support their activities (Skinner & Chapman, 1999).

With or without external support, K-12 school offerings in community service and service-learning are growing in popularity and now represent a sizable majority of school programs in the United States. According to the 1999 *S&CS* Survey (which looked at public schools) and the 1998 *Service Learning Survey (SLS)* (which looked at private schools), 68 percent of all public schools and 88 percent of all private schools in the United States reported participation by at least some of their students in community service or service-learning (Genzer, 1998; Skinner & Chapman, 1999). The S&CS Survey showed that participation is progressively greater in the later grades. Among public schools, 55 percent of elementary schools, 77 percent of middle schools, and 83 percent of high schools reported student involvement in community service.

The proportion of *schools* offering community service or service-learning can also be compared to the proportion of *students* participating in these activities. The prevalence of participation by individual students in community service and service-learning is provided by parallel student-level data from the 1999 *National Household Education Survey (NHES)*. This national survey found that student participation in community service activities has grown to include at least half of 6th through 12th grade public school students and that an even larger percentage of private school students participate. Furthermore, the NHES Survey found that half of the students who reported participating in community service participated in service-learning.

Table 1. Percentage of Students in Grades 6–12 Participating in Community Service and Service-Learning in U.S. Public and Private Schools (1999)[3]

	Student Participation in Community Service as a Percentage of the Total Student Population	*Student Participation in Service-Learning as a Percentage of Students Participating in Community Service*
Public Schools	50%	56%
Private Schools	71%	66%

Note: Private school figures calculated by combining church-related and not church-related figures. Figures for service-learning were calculated by Kleiner and Chapman on the basis of the number of students who reported that they had participated in a community service activity within the last year, who reported having talked about their community service activity in class, kept a journal or wrote about the service activity, or received a grade based on the service activity. *Source:* Kleiner and Chapman (1999).

Taken together, the data show widespread involvement at both the school and student levels in community service, service-learning, or both. In some of the cited surveys respondents were allowed to self-identify their activities as 'community service' or 'service-learning,' while in other surveys the researchers defined or stipulated their own criteria for each of the two terms. Given that so many people have a stake in these activities, it is important to ask what kind of activities these labels actually refer to, and whether what people call *community service* differs from what they call *service-learning* in genuinely important ways.

COMMUNITY SERVICE OR SERVICE-LEARNING: WHAT'S IN A NAME?

Educators, researchers, and policymakers have carried out a protracted debate about the meaning and definition of *community service* and *service-learning*. *Community service* is used more widely than *service-learning*, both in the sense that more people are familiar with *community service* and in the sense that it is typically applied to a wider range of activities. Researchers often seek to define their terms carefully, because their work involves making claims about what the evidence shows about something, and the accuracy of their statements depends on the exact meaning of their terms. Ultimately the decision about which term to use may be arbitrary, so long as the meaning is clear, but the public debate about these terms may also reveal other interests people have about how service opportunities should be experienced by students. The airing of various ideas about the meaning of service and the terms used to describe it may shape the development of both research and practice, in so far as researchers' and practitioners' con-

ceptions of what they are doing shapes the design of research projects and educational initiatives. By looking at how the two terms are contrasted with each other in some public discussions, and then looking at the data about current educational practices, a clearer picture may emerge of what people are thinking and doing about service.

When seeking to distinguish the two terms, service-learning advocates frequently offer several reasons for resisting *community service* for describing what they support. First, they associate *community service* with an elitist notion of social obligation that implies the moral superiority of those performing the service. Second, service-learning proponents dislike *community service* because they associate it with the other end of the social spectrum, that is, the context of convicts whose sentence includes performing some task which benefits society but may well be personally embarrassing or distasteful to the performer. Third, and perhaps most frequently, they associate *community service* with purely altruistic or charitable activities in which the personal benefits of the service consist of a positive impact on the souls of those who perform the service, without their really *learning* anything significant in the process. From this perspective, community service may be right for counts, convicts, and converts, but it does not measure up to the requirements of service-learning.

Service-learning also has detractors. Some community service supporters complain that the general public does not recognize the term and see no reason to introduce it when a perfectly suitable and widely understood term already exists. Some people claim that educators who use *service-learning* to describe what they do often have a particular ideological ax to grind, namely, *service-learning* is considered to be the favored term of progressive reformers who want service activities to promote a partisan political view of how American society, social institutions, and citizens should be reformed. Finally, some people argue that advocates of *service-learning* focus too heavily on promoting the development of students' cognitive thinking skills, giving relatively short shrift to both the development of students' moral dispositions and the realization of community benefit.

Beside these differences, service-learning advocates typically propose a more rigorous and complex set of criteria for what constitutes genuine service-learning. There is no real dispute about the basic criterion of a service experience that is both personally meaningful and beneficial to the community. Beyond this criterion, which is shared by everyone, service-learning advocates often distinguish service-learning from community service by calling for some or all of the following:

- Clearly identified learning objectives;
- Student involvement in selecting or designing the service activity;
- A theoretical base;

- Integration of the service experience with the academic curriculum; and
- Opportunities for student reflection (Kraft, 1996).

Naturally, the more sophisticated criteria for service-learning make it a more attractive topic for academic conceptual analysis than the simpler topic of what counts as community service.

What do the data show about how the two terms are used in practice? While authors in the current education literature may favor *service-learning*, the data show that practitioners more often refer to the activities they organize as *community service*. In the S&CS survey of public school administrators, the researchers used a definition of *service-learning* that reflected the more rigorous criteria identified previously, and a definition of *community service* that did not involve such elements.[3] Using these definitions, 64 percent of school officials reported student participation in community service, while 32 percent reported organizing service-learning (Skinner & Chapman, 1999).[4] It is perhaps not surprising that the more rigorously-defined program occurs less frequently.

In the SLS private school survey, where practitioners were asked to choose between the two terms without any definitions being offered, they rarely identified their activities as service-learning: 75 percent of them described their programs as community service, while only 9 percent called their programs service-learning (Genzer, 1998). At the same, however, the survey respondents often reported that their community service activities possessed features that service-learning advocates reserve for service-learning:

1. **Curricular integration**. At least 62 percent reported having a co-curricular component for their service activity, and 26 percent reported that service was connected to academic classes.
2. **Student reflection**. 35 percent reported student reflection when the service was linked to a nonacademic course, and 61percent said that there were opportunities for reflection after the service activity was completed.
3. **Student voice**. 80 percent reported that students selected their projects, and 61 percent said that students designed service projects (Genzer, 1998).

In sum, the SLS data clearly suggest that private school officials often think of community service as a learning experience in which student reflection, a curricular component, and student voice are part of the activity. (And the previously cited data about student participation imply that most of the public and private school students found this to be part of their community service experience as well.) They do not think of these elements of service experience as exclusively characteristic of service-learning. Rather,

many students' service experiences fall somewhere between the two poles, containing some, but not all, of the elements put forward in the strict definition of service-learning.

REASONS TO SERVE: FEELING GOOD OR THINKING WELL

Besides examining the structural features of community service and service-learning activities, it is also important to discover what students are doing in these activities and what purposes the activities are supposed to serve. The same set of national surveys also provide data about what kind of activities students in public schools pursue under the auspices of community service or service-learning programs and what the intended objectives of such activities are. In the NHES Survey of 1999, 6th through 12th grade students were asked whether they had participated in some form of community service activity organized through their schools. A subsample of students who reported having participated in such activity was asked to describe what they had done, identifying up to three specific service activities they had performed. Their answers were then classified into appropriate categories. Of the 43 categories of specific activities used in the survey analysis of the data, the following ten were reported most frequently:

Table 2. Most Common Type of Community Service Activities as Reported by Students: *National Household Education Survey* of 1999

Type of Service Activity	*Percent*
Teaching and tutoring	19.8
Cleaning outdoor public areas	13.1
Visiting and talking with individuals	11.5
Preparing food, clothes, toys, etc. for distribution	10.5
Administrative work	10.4
Singing activities	7.7
Indoor cleaning and housework	6.9
Yard work	6.8
Serving meals	6.5
Distributing food, clothing, toys, etc.	6.4

Source: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey: Washington, D.C., 1999.

Similarly, in the SLS survey of private school practitioners, respondents were asked to identify the most common types of service activities their

schools sponsored. They chose from among 16 categories defined by the researchers (eight categories of *direct* human service activities, and eight categories of *indirect* human service activities, with the option of identifying an activity as "other"). The following types of service activities were reported most frequently.

Table 3. Prevalence of Service Activities as Reported by Private School Practitioners (1998)

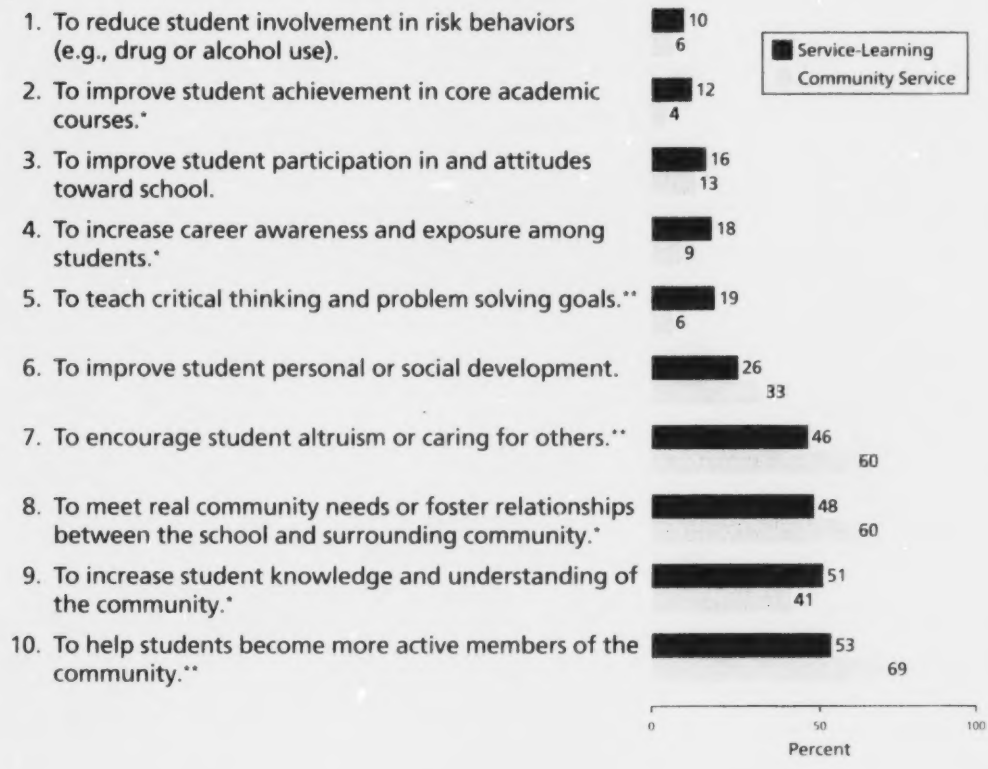
Direct Human Service Activities	*Percent*
1. Visiting elders	71.4
2. Working in homeless shelters	70.2
3. Tutoring in public schools	58.4
Indirect Human Service Activities	
1. Collecting food, clothing, etc.	65.5
2. Environmental work	64.0
3. Housing	49.9

Source: Genzer (1998).

The data from these two sources suggest that the most common types of service experiences are fairly consistent across public and private schools. Tutoring, providing companionship, environmental work, and collecting and distributing food and other goods are the most common forms of service. The general pattern of popular activity corresponds to the simpler model of community service (i.e., of personally rewarding service that provides a community benefit). Most of these activities do not necessarily match the image advanced by some proponents of service-learning (i.e., of activities that foster students' cognitive development and encourage institutional or political reform). While teaching and tutoring generally involve students' academic skills, and singing is a fine arts skill, otherwise the activities identified do not reflect a particular focus on intellectually challenging activity. As for the popularity of an interest in social or political reform, in the SLS study, the researchers noted that "advocacy" and "political work" were the two types of projects least often reported.

The data about types of service activities may be enriched by looking at the data about the educational objectives practitioners select for supporting them. The S&CS survey data include information about the reasons public school administrators chose for supporting service-learning or community service activities. Given a set of ten options, the surveyed administrators selected the following as their top three reasons for supporting their school's service-learning or community service activity. Table 4 presents these data.[5]

Table 4. Reasons for Encouraging Service-Learning or Community Service



* p<.05 for service-learning administrators' vs. community service administrators' choice of the given reason.

** p<.05 for service-learning administrators' vs. community service administrators' choice of the reason as one of their top three reasons

Note: Of public schools with community service or service-learning, percent indicating that various reasons for encouraging student involvement in community service or service-learning were among the most important—Academic year 1998–1999. Data presented in this figure are based upon the number of schools having community service or service-learning—64 and 32 percent, respectively. Percentages of schools citing reasons for encouraging student involvement in service-learning or community service do not sum to 100 percent because schools selected their three most important reasons.

Standard errors in order of their appearance in the estimates are 1.4, 2.5, 1.0, 2.4, 2.0, 3.3, 1.1, 2.9, 1.0, 2.6, 2.6, 3.0, 1.9, 3.7, 2.8, 3.9, 2.9, 4.1, 2.5, and 3.6, respectively.

Source: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "National Student Service-Learning and Community Service Survey," FRSS 71, 1999.

The data clearly show that the educators focus on the relationship between students and the community, for both community service and service-learning programs. Three of the ten choices stress some aspect of the

importance of the community as a reason for student involvement; namely, "*To meet real community needs or foster relationships between the school and community,*" "*To increase student knowledge and understanding of the community,*" and "*To help students become more active members of the community.*" These community-oriented reasons were three of the four most frequently chosen by both community service and service-learning administrators. "*To encourage student altruism or caring for others*" was the fourth objective most often chosen by survey respondents for both programs, followed by "*To improve student personal or social development.*" By comparison, relatively few community service or service-learning program administrators chose either of two more cognitively-oriented objectives that focused on developing students' critical thinking skills or academic achievement.

There are also revealing differences between the community service administrators' selections and the service-learning administrators' selections. Community service and service-learning administrators differed significantly in the frequency of their selection of particular objectives for seven of the ten objectives offered. (Only the objectives pertaining to personal and social development, participation in and attitudes toward school, and involvement in risk behaviors did not differ significantly). Applying a more stringent statistical test to the differences between the two sets of selections, community service and service-learning administrators differed significantly in the frequency with which they chose an objective as one of their top three with respect to three of the ten objectives. Community service practitioners were more likely to choose "*To help students become more active members of the community*" and "*To encourage student altruism or caring for others*" while service-learning administrators were more likely to choose "*To teach critical thinking and problem-solving skills.*" Still, despite these differences, the overall patterns of selections are fairly similar.

The pattern of responses is consistent with the earlier description of the debate between community service and service-learning advocates. Both efforts share the desire for students to understand and provide benefits to the community. Community service practitioners appear to place more importance on helping students become more actively involved in the community and on reinforcing prosocial or moral dispositions. Service-learning practitioners support these objectives less frequently and place more importance on students' intellectual development, particularly their ability to solve practical problems.

Set beside the data about the kind of service activities students are actually doing, the activities most students perform appear to be more naturally suited to the objectives especially favored by community service educators. Visiting the elderly and the homeless, tutoring, environmental work, and food drives are activities that would seem to provide opportunities for students to develop an appreciation for community involvement and a caring

attitude toward other people. These activities are not so inherently amenable to the usual service-learning agenda. Except for teaching and tutoring (and possibly singing), the reported activities do not necessarily involve an academic challenge for students or require the mastery of academic content; even tutoring and singing do not necessarily involve critical thinking skills.

This is not to say that these activities necessarily exclude intellectual challenges or opportunities to develop critical thinking skills. With a little imagination, one could certainly design activities in any of these categories to include problem solving and mastering certain academic content. For example, if students arranged the vocals and instrumentation of musical pieces in class and then performed them at the local senior center, this would produce harmony between a creative intellectual task and service to the community. The point is rather that practitioners bent on accomplishing the objectives more often associated with service-learning will have to be more deliberate about crafting students' field experiences to include suitable learning opportunities in order to advance their particular objectives, so long as the basic types of common activities remain the same.

The selection of particular activities and educational objectives for either community service or service-learning cannot be justified by appeal to relevant research findings regarding effective practice. The existing research literature does not provide a clear picture of the most effective type(s) of service activity. Research studies have produced some encouraging findings for a variety of outcomes, but they have yet to establish what strong, consistent, and enduring effects on students there are for any particular kind of community service or service-learning activity as compared to any other, or compared to education without service. Research evaluations have documented increased student awareness of the community through participation in community-related service activities and other positive attitudinal responses, but these data have not yet been reinforced by sound objective findings regarding enduring changes in students' knowledge, attitudes, or behavior caused by participation in community service or service-learning (Alt & Medrich, 1994; Anderson, 1998; Billig, 2000; Conrad & Hedin, 1991; Kraft, 1996; Melchior, 1998). The existing data do not provide a clear, rational justification for preferring one kind of community service or service-learning objective to another.

STANDARDS-BASED REFORM AND ACCOUNTABILITY

While research currently provides little guidance to practitioners for the selection and design of particular service activities and objectives, pragmatic consideration of the context of educational practice in the United States offers some basis for evaluating what practitioners might do by way

of community service or service-learning activities. Taking into account what else is happening in the educational system may improve practitioners' judgments about the prospects for particular kinds of service projects. For the remainder of this chapter, *community service-learning* will be used as a generic term to refer to both community service and service-learning activities as currently practiced. The use of the term is not meant to be restricted to the enhancement of academic achievement as an educational objective. While the term is somewhat awkward, community service-learning offers the advantages of apparent familiarity, neutrality between the two contested terms, and a suitably balanced emphasis on both community benefit and educational objectives.

The goals of community service-learning do not automatically coincide with those of the education system at large. Community service-learning supporters may have one set of goals in mind, while others are focused on something else. If people with no particular allegiance to community service-learning control the education system, institutional support for community service-learning may be weak, sporadic or undermined because of other institutionalized commitments. At some point the context in which community service-learning initiatives are being implemented should be examined to gauge what kind of support may be available within the general educational environment.

Systemic standards-based reform is the dominant approach to education reform in the United States today. According to this approach, explicit student learning objectives called *content standards* are developed as the goals of the education system. The various elements of the education system—teachers, curricula, resources, and assessments—are then shaped and aligned in such a way as to focus on reaching the standards. Various accountability mechanisms—high stakes tests, teacher incentives, school performance measures, etc.,—are then used to hold students, teachers, and school administrators accountable for how well they meet the content standards embedded in the system. The focus of educational practices on the standards, and the association of rewards and sanctions with meeting those standards, tend to direct the efforts of educators in the system.

Standards-based reformers and policymakers are primarily interested in improving students' academic achievement, and the accountability mechanisms being implemented are generally intended to reward or sanction student, teacher and school performance on that basis. Standards identify knowledge and skills in the core subject areas that all students are expected to learn, and the system's resources are directed to help them meet those expectations. In most states students are required to take some form of standardized test at certain grade levels to determine whether they have reached the standards. Their performance on the tests has consequences

that may affect grade promotion, graduation, teacher evaluations, and receipt of school sanctions or rewards.

Community service-learning represents a significant investment of time and energy by students and school staff. These investments may or may not coincide with the interests of standards-based education. For purposes of illustration, consider the common example of a community service-learning project in which students test the condition of various local water sources and then develop and present a report of their findings. This example allows us to illustrate variations in the relationship between standards-based education and community service-learning. Those variations imply different consequences for the viability of community service-learning in the current education system.

One possibility, particularly if community service-learning is deliberately integrated into the regular academic curriculum, is that the community service-learning activity has as its objective some part of the knowledge and skills included in the education system's content standards. The standards might call for students to be able to know and understand various features of water solubility and its movement through the environment, and for students to be able to analyze, organize, and present scientific information to various audiences. (Such objectives are in fact typical of relevant content standards in science and language arts in the United States today.) Such learning may also represent the explicit learning objectives of the illustrative community service-learning activity.

In these circumstances, the issue then becomes whether the use of time and energy in community service-learning is more or less successful than the regular curricular approach used to enable students to meet the relevant standards. Student learning will presumably be reflected in student performance on the tests that are aligned with the standards. If the community-service learning experience is indeed more educational, then the accountability mechanisms institutionalized in the system should serve to reinforce the preservation of the community service-learning experience. If not, the system will serve to discourage its continued use, and favor the conventional approach.

Another possibility is that the learning objectives of the community service-learning activity differ substantially from those embedded in the existing content standards and promoted by the regular curricular offerings. If the accountability mechanism is properly aligned with the existing content standards, then the system will not support community service-learning, and educators will be inclined to attend to the kinds of learning to which rewards and sanctions are attached instead.

There are at least two types of learning objectives that are reasonable goals for community service-learning and that are seldom prominent in content standards currently in use in the United States. One type of learn-

ing objective emphasizes the practical application of knowledge and skills. For example, the illustrative community service-learning exercise's objectives might be to improve students' ability to use scientific equipment in the field, rather than in the laboratory, and to figure out an action plan for delivering water test findings to people in the community whose practical responses may improve the quality of water in the tested water sources. They represent learning objectives with a practical orientation. A second type of learning objective pertains to students' moral dispositions and understanding. The community service-learning exercise's objectives might be to increase students' sensitivity to the quality of the environment, to care more about how people's actions impact the environment and the lives of other people, and to develop a sense for what obligations they owe to each other, to the environment, and to future generations. These learning objectives are oriented toward the moral.

With respect to these two types of objectives, the practical and the moral, the success of a community service-learning exercise may go undetected by assessments aligned with the content standards of popular standards-based education. In that event, if there are high stakes associated with student performance on those assessments, even a successful community service-learning exercise (in the sense of an exercise that effectively realizes its objectives) may go by the wayside because the system rewards the pursuit of a competing type of objective.

The chances that activities which pursue such alternate objectives will be eliminated by systematic pressure are fairly high. Current standards-based education efforts are deliberately trying to set challenging standards for student academic performance, and the American academic curriculum is thought to include an excessive number of learning objectives (Marzano, Kendall, & Cicchinelli, 1999; Schmidt, McKnight, & Raizen, 1997). Educators have expressed concern about which activities may be sacrificed in the interest of devoting adequate student time to meeting core content standards, and in some school systems, time previously devoted to physical education or the arts has been curtailed. Community service-learning exercises frequently require significant amounts of time, and so the pressure to drop them is real, especially if they are viewed as pursuing objectives unrelated to the existing accountability mechanisms.

Faced with this predicament, community service-learning practitioners have at least three options. The first is to deliberately design community service-learning activities that coincide with the objectives of the standards-based education efforts in the local system. This limits what kinds of exercises they can initiate, but it takes advantage of reinforcement from the institutionalized incentives of the education system. Practitioners can argue that their initiatives contribute positively to the accomplishment of the same objectives as those of the standards-based reformers.

The second option is to develop community service-learning activities even though their objectives do not coincide with the objectives embedded in the standards-based education system. In order to do this successfully, supporters must provide convincing arguments that the objectives they seek possess an educational importance that is independent of, yet equal in value to, the learning objectives of the standards-based reform that is supported by the system's accountability mechanisms. In that case, community service-learning will have to find alternative mechanisms of support.

The third option is to develop community service-learning activities whose educational objectives do not coincide with the objectives of the current standards-based system and seek to revise the system's standards to reflect the objectives of the community service-learning activities. The advantages of this option are that the choice of objectives is not limited to those already contained in the current standards, and the system is revised to support community service-learning. In order to accomplish this, however, the practitioners would have to successfully bring about a revision of the system's standards and associated accountability mechanisms.

TAKING A PAGE FROM THE BOOK OF STANDARDS-BASED REFORM

Whatever option community service-learning practitioners choose for the development of educational experiences for students, those practitioners have something to learn from the general model of standards-based education reform, namely, the importance of alignment. Whether or not one embraces the emphasis on academic achievement in current standards-based reform, this reform strategy teaches a valuable lesson about aligning the various elements of educational interventions with their intended objectives. Educational strategies are more likely to prove effective if the teaching strategy, curriculum, learning opportunities, and assessment of an educational approach are all congruent with a standard that identifies what students are meant to accomplish. And accountability mechanisms provide systematic incentives to encourage people to ensure that those elements are and remain aligned with each other.

Community service-learning activities are not always constructed so coherently. Community service-learning activities are composed of several parts which are sometimes implemented independently of one another. Practitioners can and sometimes do invent objectives, field experiences, curricular components, reflective opportunities, and evaluation instruments without sufficient regard for whether each part of the activity is well suited to the others. For instance, if the field activity is providing companionship to the elderly, the classroom curriculum is focusing on ethical

dilemmas, and the assessment instrument is testing student understanding of health education over the life span, then students are doing one thing, thinking about something else, and being tested for something unrelated to either one. Such efforts are unlikely to demonstrate success consistently.

Whether they embrace the established system of standards-based reform or not, community service-learning practitioners could strengthen their efforts by integrating the basic orientation of standards-based reform into their own initiatives. What are the students supposed to learn? What field experience will give them a chance to learn it? What classroom lessons focus on the content of the field experience? What kind of reflective activity suits the intended learning goal? What assessment technique permits students to demonstrate what they've learned? To improve community service-learning, *all* of these questions are better asked and answered *together.*

RESEARCH THAT SERVES A PURPOSE

Based on this discussion, research data about community service-learning would be especially useful in three areas:

National Data. Despite their limitations, the survey data from the three surveys presented in this chapter provide a useful picture of the state of the art in community service-learning in the United States. They provide a general picture of how much community service-learning is taking place, what elements are included in them, what kinds of service experiences students are performing, why school officials support them, and other interesting features. Continued national data collections about community service-learning activities would enable us to see whether this movement continues to grow or not, and what sorts of changes it undergoes. Since the recent data collections drew their responses from students and school administrators, a national survey of teachers' views about their community service-learning experiences would be especially instructive. Data about teachers' perspectives on the purposes, practices, and problems of community service-learning could be quite informative.

Evaluation Data. The argument for community service-learning could be strengthened by research data demonstrating the effectiveness of community service-learning in achieving specific outcomes. The current emphasis on accountability in education policy means that institutional support for community service-learning is more likely to occur when educators can show that a particular approach achieves results. Community service-learning takes time and effort and resources, and in the long run practitioners are more likely to have access to all three if they can offer evidence to the skeptics that what they are doing really works. Research data

about effectiveness in achieving particular objectives would also help to guide practitioners' choices about the design of community service-learning activities. Currently, community service-learning is thought to be a means of achieving a wide variety of educational objectives. If research were to show that community service-learning is actually more effective at achieving some objectives than others that is information practitioners could use.

Contextual Data. This chapter has suggested that the relationship between community service-learning activities and standards-based reform is both variable and crucial to the continued survival of community service-learning activities. An argument has been offered, but no data have been presented to support its conclusions. Do community service-learning activities that promise results that have a bearing on the accountability mechanisms in the education system receive more support than those making no such promises? Or does community service-learning engender support from other quarters that is impervious to the pressures of standards-based reforms and accountability mechanisms, such that it flourishes on its own? Researchers, practitioners, and policymakers would all like to know.

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NOTES

1. This chapter is intended to promote the exchange of ideas among researchers and policymakers. The views expressed in it are part of ongoing research and analysis and do not necessarily reflect the position of the U. S. Department of Education. Your comments are welcome and can be addressed to Ivor Pritchard, OERI, 555 New Jersey Avenue, NW, Washington, D.C. 20208-5573, United States of America, or to Ivor.Pritchard@ed.gov.
2. http://www.learningindeed.org
3. The two definitions were as follows:

   Community Service. For the purposes of this survey, student community service is defined as community service activities that are *non-curriculum-based* and are recognized by and/or arranged through the school. The community service:

   - May be mandatory or voluntary;
   - Generally does not include explicit learning objectives or organized reflection or critical analysis activities; and

- May include activities that take place off of school grounds or may happen primarily within the school.

Service-Learning. For the purposes of this survey, service-learning is defined as *curriculum-based* community service that integrates classroom instruction with community service activities. The service must:

- Be organized in relation to an academic course or curriculum;
- Have clearly stated learning objectives;
- Address real community needs in a sustained manner over a period of time; and
- Assist students in drawing lessons from the service through regularly scheduled, organized reflection or critical analysis activities, such as classroom discussions, presentations, or directed writing.

4. Four percent of the respondents reported having service-learning but not community service at their schools, which explains the earlier cited figure of 68 percent of schools having community service or service learning.

REFERENCES

Anderson, S.M. (1998). *Service learning: A national strategy for youth development.* Washington, DC: Institute for Communitarian Policy Studies, George Washington University.

Alt, M.A., & Medrich, E.A. (1994). *Student outcomes from participation in community service.* Berkeley, CA: MPR Associates.

Billig, S.H. (2000). Research on K-12 school-based service-learning: The evidence builds. *Phi Delta Kappan, 81*(5), 658-664.

Conrad, D., & Hedin, D. (1991). School-based community service: What we know from research and theory. *Phi Delta Kappan, 72*(10), 743-749.

de Tocqueville, A. (1961). *Democracy in America* (2 vols.). New York: Schocken.

Genzer, D. (1998). *Community service & service learning initiatives in independent schools.* Washington, DC: National Association of Independent Schools.

Janowitz, M. (1983). *The reconstruction of patriotism: Education for civic consciousness.* Chicago: University of Chicago Press.

Kleiner, B., & Chapman, C. (1999). *Youth service-learning and community service among 6th through 12th grade students in the United States: 1996 and 1999.* Washington, DC: U.S. Department of Education, National Center for Education Statistics.

Kraft, R.J. (1996, February). Service learning: An introduction to its theory, practice, and effects. *Education and Urban Society, 28*(2), 131-159.

Marzano, R.J., Kendall, J.S., & Cicchinelli, L.F. (1999, January). *What Americans believe students should know: A survey of U.S. adults.* Aurora, CO: Mid-Continent Regional Educational Laboratory.

Melchior, A. (1998). *National evaluation of learn and serve America school and community-based programs/final report.* Boston: Center for Human Resources, Brandeis University.

Schmidt, W.H., McKnight, C.C., & Raizen, S.A. (Eds.). (1997). *A splintered vision: An investigation of U. S. science and mathematics education.* Boston: Kluwer Academic

Publishers, U. S. National Research Center for the Third International Mathematics and Science Study.

Skinner, R., & Chapman, C. (1999). *Service-learning and community service in K-12 public schools.* Washington, DC: U.S. Department of Education, National Center for Education Statistics.

U.S. Department of Education. (1990). *National goals for education.* Washington, DC: Author.

U.S. Department of Education. (1999). *National household education survey.* Washington, DC: U. S Department of Education, National Center for Education Statistics.

U.S. Department of Education. (1999). *National student service-learning and community service survey* (71). Washington, DC: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS).

CHAPTER 2

IS SERVICE-LEARNING REALLY BETTER THAN COMMUNITY SERVICE?

A STUDY OF HIGH SCHOOL SERVICE PROGRAM OUTCOMES

Andrew Furco

BACKGROUND AND OVERVIEW

In their 1981 study, the *Experiential Education Evaluation Project*, Dan Conrad and Diane Hedin investigated the impact of a range of experiential education programs on secondary school students. The study, which involved more than 1000 secondary school students, compared the effects of five different types of experiential education programs—community service, internships, political action, community study, and adventure education—on students' psychological, social, and intellectual development. The study found that the various programmatic forms of experiential education showed significant, positive effects in all three student outcome areas. It also revealed that certain programmatic features, such as clearly articulated program goals and well-delineated program structures, create the conditions under which the student outcomes are manifested.

Recent federal legislation, namely the passage of the 1990 National and Community Service Act and the 1994 School-to-Work Opportunities Act, has further promoted the development of experiential learning activities for K-12 students. Much of the recent emphasis of school-based experiential education programs has been on student *service* programs. These programs provide experiential learning opportunities to students by engaging them in service-based experiences that address an authentic social issue in the community.

Three predominant forms of school-based service programs are community service, service-learning, and service-based internship programs. Although distinct on several dimensions, all three types use *service* as the primary means to engage students in experiential learning activities. Building off of Conrad and Hedin's study, the study described in this paper investigated how these three forms of school-sponsored service programs affect students' academic, career, personal, social, civic, and ethical development.

SIMILARITIES AND DIFFERENCES IN SERVICE PROGRAMS

Although all types of school-sponsored service programs seek to provide opportunities for students to engage in authentic community service activities that extend beyond the classroom, each type is intended to serve a specific set of educational purposes. Table 1 contrasts the educational purposes, intentionality, and focus of community service, service-learning, and service-based internship programs. As the table describes, each program type places a different amount of emphasis on service and/or learning and is defined by whether the primary intended beneficiary of the experience is the *service provider* or the *service recipient.*

Table 1. Distinctions Among Three Types Of Service Programs

	Community Service	*Service-Learning*	*Service-Based Internship*
Primary Intended Beneficiary	Recipient	Recipient AND Provider	Provider
Primary Focus	Service	Service AND Learning	Learning
Intended Educational Purposes*	Civic Development Ethical Development	Academic Development Civic Development	Career Development Academic Development
Integration with Curriculum	Peripheral	Integrated	Co-curricular/ Supplemental
Nature of Service Activity	Based on a Social Cause	Based on an Academic Discipline	Based on an Industry or Career

Notes: * In addition to their primary intended educational purposes, most service programs types intend to develop personal and social outcomes (Conrad & Hedin, 1989).

Having a strong emphasis on providing a "service," *community service* programs are primarily intended to benefit the recipient of the service activity (Furco, 1996). In high schools, for example, community service activities typically address a social issue (e.g., recycling, homelessness, AIDS, the environment) and are often part of after-school clubs that are not formally related to any academic course or curriculum. School-sponsored community service programs are intended primarily to foster students' civic participation and ethical (values) development (Delve & Mintz, 1990).

In contrast, *service-learning* seeks to engage students in activities that both combine community service and academic learning. Because service-learning programs are typically rooted in formal courses (core academic, elective, or vocational), the service activities are usually based on particular curricular concepts that are being taught. Many service-learning activities provide students with opportunities for further academic development by allowing them to apply their knowledge to address a curriculum-related need in the community (e.g., students in a geometry course use their understanding of geometry to design and build wheelchair access ramps for disabled persons). While students may develop socially and personally, the primary intended purpose of service-learning is to enhance students' academic development and civic responsibility (Conrad & Hedin, 1989; National and Community Service Trust Act, 1993).

In service-based *internship* programs, students tend to spend time at an agency to learn about a particular career industry while applying their academic knowledge and professional skills to complete specific projects at the agency. For the most part, the program emphasizes the students' learning (rather the serving the agency). According to the American Vocational Association (1994), internship programs are concerned primary with preparing students to be productive workers. Some experts have argued that internships are not truly a type of *service* program but rather refer to a *work-based learning* or "job readiness" program (Hamilton & Fenzel, 1988; Kendall & Associates, 1990). However, according to Dwight Giles and Jamille Freed (1985), *internship* is a generic term that is part of a cluster of educational methods (including community service and service-learning) known as "off-campus" education (in Kendall & Associates, 1990, p. 349). And not only do students in internship programs often provide a "service," but students who perform service as part of a school-sponsored program are oftentimes said to be performing an "internship."

FOCUS OF THE STUDY

Recent reviews of the research on school-sponsored service programs reveal a broad range of possible student outcomes. The outcomes of stu-

dents engaged in community service, service-learning, and service-based internships programs have included positive effects on students' academic, social, personal, career, ethical, and civic development (Alt & Medrich, 1994; Andersen 1998; Billig, 2000; Conrad & Hedin, 1991; Furco, 1994). However, despite a growing body of research that supports the educational benefits of service programs, there is still much that remains unknown about the programmatic features of service programs that have the greatest effect on students or how different types of service programs affect students (Billig, 2000; Waterman, 1997).

In the last few years, a growing amount of attention has been given to *service-learning*. Some educators believe that service-learning helps legitimize the engagement of students in service activities because of its intentional learning component (Wade, 1997). In describing the difference between community service and service-learning, Carole Kingsley and Kate McPherson (1995) write, "The added dimension of learning provides depth to young people's experiences, helps support their social and personal development, and provides integrated curriculum and instruction to support school reform experiences" (p. 3).

On many fronts, service-learning is touted by educators as an academically rich form of service-based experiential education. Service-learning is viewed by some educators as more educationally beneficial than community service because service-learning provides opportunities for formal reflection, whereby students deepen their understanding of the academic content they are studying and the social issue they are addressing (Eyler & Giles, 1999). A number of states, such as California, Florida, Pennsylvania, and Minnesota, have established statewide service-learning initiatives that support intentional and strategic ties between community service and students' academic work. Service-learning advocates purport that the intentional academic connections that service-learning provides raise the academic legitimacy of school-sponsored service programs (Bhaerman, Cordell, & Gomez, 1998). Some educators have gone as far to say that service-learning goes beyond community service because service-learning experiences "connect students to their communities, enrich students' learning, and help them develop personally, socially, and academically" (Kinsley & McPherson, 1995, p. 1).

But is service-learning really better than community service? Are the educational and developmental outcomes of students engaged in service-learning better than for students engaged in community service or service-based internship programs? The goal of this study was to determine if community service, service-learning, and service-based internship programs, with their respective intended beneficiaries, foci, and educational purposes, affect students in different ways.

To answer this question, the study investigated the ways in which 529 high school students participating in high quality community service, service-learning, and service-based internship programs at two schools were affected by their involvement in the respective programs. Specifically, the one-year study addressed two research questions:

1. Are there significant differences in educational development between students who perform service (through any type of service program) and students who do not perform service?
2. Are there significant differences in the educational development of students who participate in different types of service programs?

The first question sought to ascertain the extent to which this research supports earlier research findings about the overall outcome of service programs. While the findings have not been definitive, a growing body of research suggests that service programs, in general, have positive educational outcomes for students (Billig, 2000). The second question sought to determine if particular types of service programs lend themselves to fostering particular student outcomes. An exploration of this question will help move us closer to determining if indeed there are significant differences in the way different types of service programs affect students.

ASSESSING THE EDUCATIONAL OUTCOMES OF SERVICE PROGRAMS

As forms of experiential learning, community service, service-learning, and service-based internship programs are rooted in well-established educational and cognitive theories of constructivism, pragmatism, progressivism, and experiential education (Bruner, 1960; Dewey, 1938; Freire, 1970; Gardner, 1984; Kohlberg, 1984; Kolb, 1984; Lave, 1988; Piaget, 1954). These theoretical foundations, especially those focused on experiential education, cover a broad range of cognitive and affective outcomes for students. The educational domains of experiential learning programs encompass students' intellectual, social, personal, civic, moral, and vocational development (Boud, Cohen, & Walker, 1993; Conrad, 1980; Dewey, 1938; Kolb, 1984; Perry, 1970).

Experiential education supports the idea that the purposes of education extend beyond the academic or cognitive development of students. Although some service programs (namely, service-learning programs) are intended to advance students' development in the academic domain, other types of service programs are intended primarily to foster development in the non-academic or affective domains. Goodlad (1984) defines the affec-

tive educational domains as personal, career, social, ethical, and civic development. In his book, *A Place Called School: Prospects for the Future*, Goodlad proposed a set of educational goals (or purposes) for all K-12 schools.

What is most striking about Goodlad's (1984) goals for education is their close alignment to the overarching educational goals of school-sponsored service programs. Conrad and Hedin's (1981, 1989) assessments of the benefits of service programs for young people resulted in a list of student outcomes that not only span a broad range of cognitive and affective domains, but also match Goodlad's educational goals for K-12 schools. Specifically, Goodlad's goals and Conrad and Hedin's service program aims and outcomes focus on following six educational domains:

1. *Academic domain:* developing students' mastery of course content, thinking and problem solving skills, and attitudes toward school and learning.
2. *Vocational (Career) domain:* developing students' ability to select a gratifying and rewarding occupation, knowledge of career options, positive attitudes toward work, and realistic ideas about the world of work.
3. *Personal domain:* developing students' self-concept, self-esteem, resiliency, leadership, independence, local of control, and personal power.
4. *Civic and cultural domain:* developing students' understanding of the working of government, willingness to participate in civic life and the community, and awareness of their cultural heritage.
5. *Ethical domain:* developing students' judgements of good and evil, moral values, moral integrity, and ability to take responsibility and deal with consequences of actions.
6. *Social domain:* developing students' interpersonal understandings, ability to work productively with others, appreciation of opposing value systems, appreciation of cultural differences, concern for others, and skill in caring for others.

These six educational domains provide the framework for studying the outcomes of the various types of school-sponsored service programs.

PREVIOUS STUDIES OF SERVICE PROGRAM TYPES

Despite the growing body of evidence that well-designed service programs can foster positive educational outcomes for students, it is unknown, at this time, which educational domain is affected most by which type of service program. To date, only a handful of studies have attempted to compare the outcomes of different types of K-12 service programs.

In his original 1980 study, Conrad explored the outcomes of four types of experiential education programs—community service, community study, internships, and outdoor adventure—and a set of non-experiential comparison classrooms on the personal, social, academic, career, and ethical development of high school students ($n = 612$). Although the experiential education programs all had a strong service component, none of the programs were integrated into students' daily academic curriculum. Using a combination of researcher developed scales, well-tested psycho-social scales, and student report data on attitudinal scales, Conrad investigated the differences between the experiential and non-experiential groups in students' self-esteem, social responsibility, personal responsibility, attitudes toward adults, attitudes toward others, career maturity, moral reasoning, and problem solving skills. Conrad found that for every scale used in the study, students' gain scores (posttest score minus pretest score) were significantly higher ($p = .05$) than they were for those in the comparison group. However, in all cases, the effect sizes were quite small. In exploring the differences between each of the service groups (four experiential learning groups and the non-experiential group), Conrad found no significant differences in gain scores ($p = .05$) for any of the scales between any of the service program types. According to Conrad (1980), the greatest predictor of positive change for students was students' individual reports of their experiences. Conrad concluded that experiential education program outcomes are primarily based on students' individual experiences with particular activities rather than on any overall group outcome.

In 1981, Conrad, along with his colleague Diane Hedin, replicated this study with a larger sample. In this investigation, Conrad and Hedin studied 1000 secondary school students in 27 experiential education programs that were based on five programmatic types—community service, internships, political action, community study, and adventure education. They studied the differential effects of these programs on students' psychological, social, and intellectual development. Like the 1980 study, the findings revealed no significant differences in any of the domains between service program types. Conrad and Hedin concluded that the idiosyncratic nature of service experiences poses many challenges to studying the effects of service experiences within individual programs and across the five programmatic types.

In 1988, Hamilton and Fenzel compared the outcomes of two experiential education programs—a community service program and a child care assistance program—on youth's general knowledge acquisition, overall skill development, attitudes toward personal responsibility, and attitudes toward civic responsibility. This smaller study involved 73 youth, aged 11 to 16, who were part of a 4-H Series program in New York. This study utilized written questionnaires as well as interviews of the youth and the adults with whom they worked. The study findings revealed no significant differences ($p = .05$)

between the two groups. The study found that the youth in both groups gained in their general knowledge acquisition and overall skill development. In addition, the study found modest gains in both groups' levels of self-esteem and personal responsibility, as reported by the adults (n = 11) included in the study. Like Conrad, Hamilton and Fenzel found that gains in the youth's development varied more according to the participants' individual needs and experiences rather than by service program type.

Collectively, the findings from these studies suggest that there are no discernible differences in outcomes among types of school-sponsored service programs. As far back as 1981, Conrad and Hedin acknowledged that it is difficult to make broad generalizations about the outcomes of experiential education programs because of the idiosyncratic, individualized nature of students' learning experiences. And because individual studies have addressed different combinations of educational outcomes and have used different methodologies, data sources, instruments, and data analyses techniques to arrive at their conclusions, it remains unclear which educational outcomes are manifested by which service program type. As Billig (2000), Waterman (1997), and Shumer (1994) have suggested, the field of youth service needs more and better research on the effects particular types of service experiences have on students.

DESIGN OF THE STUDY

The study presented here utilized a quasi-experimental design to measure students' development across the six educational domains (academic, career, personal; social, civic, and ethical) identified by Goodlad (1984) and Conrad and Hedin (1989). Using 11 quantitative and qualitative measures, the one-year study compared the educational development outcomes of students in three service program categories (community service programs, service-learning programs, service-based internship programs) and a comparison group (students not engaged in any of the school-sponsored service programs). The constructs for each domain were based on the purported outcomes of service programs described in the service literature (Alt & Medrich, 1994) and on constructs defined in previous studies of community service, service-learning, and service-based internship programs.

Sample

The study involved 529 high school students who participated in a variety of service programs sponsored by two high schools in California. The two sites (School Site A and School Site B) were chosen because they each

offered three types of service programs (community service, service-learning, and service-based internship programs) to students and because all of the service programs had been formally acknowledged as being well-designed and of high quality. The two sites were both large comprehensive high schools with diverse ethnic populations.

To be eligible for the study, the classrooms and service programs at these sites had to have clearly defined educational objectives for students, experienced teachers who had been with the program for at least two years, identified service placements, and structured reflection activities. Based on each program's primary intended beneficiary, degree of emphasis on service or learning, intended educational purposes, the degree to which service was integrated with the curriculum, and the nature of service activities, the classrooms and programs were divided into three experimental groups—community service, service-learning, or service-based internships. In addition, ten classrooms (comparable to the experimental classrooms on grade level, subject matter, teacher experience, and student abilities) were selected from the two school sites to serve as a "no service" comparison group. In all, 34 classrooms/programs were included in the study. Table 2 details the breakdown of the student and classroom samples from the two school sites.

Table 2. Number of Classroom and Student Participants

Program Type	*# of Classes/ Programs*		*Total Enrollment of Participating Classes/ Programs*		*# of Enrolled Students Participating in Study*		*# of Different Service Projects*	
	School A	*School B*	*School A*	*School B*	*School A*	*School B*	*School A*	*School B*
Community Service	4	3	118	72	82	38	61	38
Service-Learning	3	6	92	161	72	56	11	43
Internship	4	4	89	84	51	45	48	45
No Service (Comparison)	8	2	231	59	131	54	0	0
TOTAL	**19**	**15**	**530**	**376**	**336**	**193**	**120**	**126**

Note: Not all students who were enrolled in the class or the program participated in the study. Students' participation in the study was based on active parental consent and students' enrollment in the course or program for the full academic year. In addition, parents consented to allow their child to participate in one, some, or all portions of the study. Therefore, not all students participated in all components (surveys, interviews, observations, etc.) of the study.

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Instrumentation

Given the complex and idiosyncratic nature of service programs, the researcher sought to collect a wide range of data from a variety of data sources by using quantitative and qualitative approaches. Along with collecting pre/posttest survey data, which were analyzed quantitatively, data were also collected through focus group interviews, samples of student work, responses to journal questions, and classroom/program observations, all of which were analyzed qualitatively.

For this study, a 41-item pre/post attitudinal survey was developed to measure student outcomes in the six educational domains. The survey asked students to indicate their attitudes toward school and their local community as well as indicate attitudes about themselves and others. Most of the survey items were taken directly from a number of relevant, previously tested survey instruments (e.g., Rosenberg Self-Esteem Test, Pier-Harris Children's Self-Concept Scale, etc.) as well as from the survey used by Conrad and Hedin in their 1981 study. Specifically, the 41 item pretest and posttest measured the following constructs:

> *Academic domain:* The survey measured changes in students' attitudes and motivation toward school and learning, understanding of relevance of academic content, and overall school performance.
> *Career domain:* The survey measured changes in students' formulation of career plans and emphasis on finding a career that was personally rewarding and/or beneficial to others.
> *Ethical domain:* The survey measured changes in students' attitudes toward standing up for what is right, willingness to participate on behalf of justice, and their ability to better distinguish between right and wrong, good and bad.
> *Social domain:* The survey measured changes in students' ability to work with others and in attitudes toward those who are culturally and racially different.
> *Personal domain:* The survey measured changes in students' self-esteem, self-concept, sense of self-empowerment, and overall leadership skills.
> *Civic participation domain:* The survey measured changes in students' awareness of societal issues and willingness to take on active roles in the community.

A reliability test of the survey items in each domain revealed only fair to moderate Cronbach alpha levels (ranging from .43 to .72).

The pre/post survey instrument was supplemented with a series of qualitative instruments to form the *Evaluation System for Experiential Education*

(ESEE). ESEE system utilized the following set of 11 data collection instruments, protocols, and approaches as a means to capture the idiosyncratic essences of individual service programs as well as the broader, more generalizeable data common to all service programs:

1. A researcher-designed student pretest/posttest survey instrument;
2. Student journals;
3. Semi-structured focus group interviews;
4. A content analysis of samples of student produced work (papers, portfolios, and presentations);
5. A student placement questionnaire;
6. Teachers' program goals and objectives;
7. Classroom site visits and observations;
8. Teacher focus group interviews;
9. A teacher questionnaire;
10. A community-based organization questionnaire; and
11. Formal and informal meetings with site administrators.

These instruments and protocols were designed specifically to capture the full range of students' service experiences as they related to each of the six educational domains. Collectively, they helped produce a comprehensive and rich data set that allowed for a variety of quantitative and qualitative analyses to be conducted.

Collection of Data

Over the course of the one-year study, data were collected from students (n = 529), teachers (n = 24), service coordinators (n = 3), site administrators (n = 2), and community agency representatives (n = 17). Based on parental consent, the pretest of the attitudinal survey was administered to 158 students in the service experimental groups and to 125 students in the no service comparison group at the start school year (prior to the start of the service activities). The posttest was administered to the same group of students near the end of the school year, after all the students in the service programs had completed their service activities.

Along with the survey administration, other complementary data from students, which included information from direct observations, interviews, journal entries, samples of student work and completed field placement forms, were collected. Each of these sets of data provided the researcher with additional information about the various aspects of the program and the students' individual development in the six outcome areas. At each of the two school sites, four in-depth student focus group interviews were con-

ducted using a sample of 32 randomly selected students (selected from the pool of 529 study participants).

Data about the students' educational development were also collected from teachers, site and program administrators, and community agency representatives. Teachers were asked to participate in a short interview designed to help provide the researcher with a clearer sense of the nature of the classroom and the service programs. All participating teachers (n = 24) completed a brief questionnaire that asked them to provide examples of the various ways students have developed through service. References to or descriptions of any of the six educational domains were coded and analyzed. Additional data were collected from the site service program coordinators (n = 3) and community-based agency representatives (n = 17).

Analysis of Data

The analysis process involved traditional quantitative statistical analyses and employed a variety of qualitative data analysis techniques.

Quantitative Data Analysis

The quantitative data analyses focused on answering the two hypotheses central to this study. The first hypothesis focused on the differences in outcomes between students who perform service and students who do not (H_0: $\mu_{service} = \mu_{no\ service}$; H_1: $\mu_{service} = \mu_{no\ service}$). This hypothesis sought to answer the question: Are there significant differences in educational outcomes between students who perform service (of any type) and students who do not perform service?

To test the null hypothesis, the community service, service-learning, and service-based internship student groups were combined to form the *service* group. The group of students who did not participate in a service program served as the *no service* or comparison group. After no serious violations of assumptions were found, it was determined that analysis of covariance (ANCOVA) could be used. To determine if there were significant differences between students who participated in a service program (of any type) and students who were not engaged in service during a one-year period, students' pretest domain scores and posttest domain scores were submitted to six ANCOVA's (one for each domain). To control for initial differences between the groups studied (e.g., service/no service), gender, ethnicity, and school site were used as conditions with grade level and students' pretest domain scores as covariates. Findings were considered significant at the .05 level of significance.

Similar quantitative analysis procedures were performed to address the second question of the study: Are there significant differences in educational outcomes among students in different types of service programs? This question sought to determine whether certain types of service programs tend to foster outcomes in particular educational domains. In this analysis, the three service groups were considered separately according to the service program type they represented. The no service group remained intact and was used as a comparison group (fourth group). Using the same pre and posttest data, and employing the same conditions and covariates as in the first analysis, an ANCOVA was conducted for each of the six educational domains. For the significant differences found at the .05 level, the Tukey Test was performed to determine between which groups (program type) the significant differences lay. The findings from these ANCOVA's were then compared with the findings from the qualitative data analyses.

Qualitative Data Analysis

The qualitative data analysis utilized an inductive approach whereby emergent patterns and themes were coded and then labeled. To conduct the analyses, all of the qualitative data from the various sources were recorded into meta-matrix cells. Along with helping to sort out the outcomes of each service program type in each of the six educational domains, the meta-matrix cells allowed for the quantification of the qualitative data (in terms of frequency and strength of incidence) and the identification of recurring themes among the data.

As the data were analyzed, quotes, observations, and other relevant information were sorted in a "cell" corresponding to the type of service program and educational domain to which the data referred. Only data that were considered *significant* were placed in appropriate cells for analysis. To be considered significant, each datum had to make a clear and overt statement, comment, or observation (positive, negative, or neutral) about students' development in one or more of the six educational domains *and* the statement, comment, or observation had to be clearly attributable to the programs that were being studied. The frequency and strength of the data from one cell (based on a program type and educational domain) were compared with the frequency and strength of the data from the other cells within that program type and educational domain. Through this comparative analysis, central themes were identified.

FINDINGS OF THE STUDY

Although the quasi-experimental nonequivalent-control-group design of the study could not establish firm causal relationships between service pro-

grams and their impacts on students, the design was successful in capturing recurring patterns of outcomes among the various types of service programs. The findings are presented here in accordance with the two questions central to the study.

Outcome Differences between the Service and No Service Groups

The findings from the quantitative and qualitative analyses revealed significant differences between the service group (combined community service, service-learning, and service-based internship students) and the no service group (students who did not perform service). The differences between the two groups were observed among most of the instruments and data sources used in the study.

Findings from Quantitative Analysis

The results of the ANCOVA's found that for each of the six outcome domains, the mean of the posttest domain score, adjusted for the covariates, was significantly larger for the service group than for the no service group at the .05 level of significance (see Table 3).

Table 3. ANCOVA Results for Student Survey Outcomes

Variable	*Group*	*n**	*Adj. Mean***	*F*	*DF*	*Prob.*	η^2
Acad.	Service	139	3.04				
	No Service	117	2.86	13.69	(1, 246)	.0003****	.053
Career	Service	136	3.21				
	No Service	112	3.06	10.96	(1, 237)	.0011****	.044
Ethical	Service	143	3.05				
	No Service	116	2.90	8.66	(1, 248)	.0036****	.034
Social	Service	138	2.93				
	No Service	112	2.81	10.44	(1, 240)	.0014****	.042
Personal	Service	113	2.91				
	No Service	95	2.82	6.67	(1, 197)	.0105***	.033
Civic	Service	142	3.02				
	No Service	115	2.91	5.58	(1, 246)	.0190***	.022

Notes: * The sample size of each group varies in each domain because of missing values (e.g., some students did not respond to certain survey items).

** Adj. Mean = mean of posttest domain scores, adjusted for the covariates.

*** $p < .05$. **** $p < .01$

When compared to students in the no service group, the students who engaged in service over the course of the year showed significantly higher gains in developing more positive attitudes toward school, themselves, others, the future, and their community, as measured by the student pre/post survey. These results were significant at the .05 level of significance for each of the six educational domains measured by the survey.

While it is not known what *caused* these differences, there is some indication that the engagement of these students in some form of service provided them with positive academic, career, ethical, social, personal, and civic outcomes that were not manifested among students in the no-service group. While the overall effect sizes are small, the quantitative findings are consistent with the results from the qualitative data analyses.

A second set of ANCOVA's was conducted for the six domains to determine if the interaction of gender, school site, and/or group influenced the posttest domain scores. Two-way and three-way interaction analyses were conducted for each domain, using gender, school site, and group as independent variables. Grade level and ethnicity, along with students' pretest domain scores, were used as covariates. The results of the interaction analyses revealed that the three-way interaction effect of group, school site, and gender was significant at the .05 level of significance for the academic ($F(1, 242) = 4.37$, $p = .038$, $\eta^2 = .02$) and ethical ($F(1, 244) = 4.27$, $p = .040$, $\eta^2 = .02$) domains only.

For the academic domain, the Tukey Test found that the adjusted mean of the posttest domain score of the male students of School Site B's no service group (Adj. M = 2.63) was significantly smaller than the adjusted means of all the service groups (both male and female) at both school sites (Adj. Ms = 3.00–3.15), at the .05 level of significance. For the ethical domain, the Tukey Test found that the adjusted mean of the posttest domain score of the male students at School Site B's no service group (Adj. M = 2.68) was significantly smaller than adjusted mean of the female students of school site A's service group (Adj. M = 3.13).

The results of these ANCOVA and Tukey Tests suggest that the significant findings in the academic and ethical domains from the first set of ANCOVA's might have been partially due to the effects of the three-way interaction of gender, school site, and group. These findings suggest that the interaction effects of gender, school site, and school, especially in regards to their effects on students' academic and ethical domains, should be explored further in future research studies.

Findings from Qualitative Analysis

As with the quantitative findings, the qualitative results revealed significant differences in outcomes between the service and no service groups.

While the ANCOVA's found these differences to be slight, the qualitative analyses detected some more robust differences between the two groups.

Consistently, among all the instruments and data sources, the findings from qualitative data analysis suggest that the service group contained more elaborate and profound discussions about student development across the six educational domains than did data from the no service group. Data from the service group tended to include overt links to how the service programs helped students work more effectively with others, develop their personal leadership skills, define their career goals, gain a better appreciation for their academic work, stand up for what is right, and develop a spirit for involving themselves in the community. In contrast, the no service group data included more casual references to the influences of the classes on students' academic development.

Content analyses of the meta-matrix cells revealed a general difference in tone between the data of the two groups studied. While the service students' experiences were typically described by students, teachers, and community agency members in a passionate and positive tone, data from the no service group tended to have a less enthusiastic and a more detached tone. The depth and profundity of the service group's data were a sharp contrast from the weaker, more superficial data of the no service group. Comments made by students during the student interviews, for example, revealed especially marked differences between the two groups. Overall, students in the service group tended to believe their service programs helped them in many ways, while the no service students were less inclined to say positive things about how their classroom activities affected them.

Generally, the response data from students in the service group were more positive, more personal, and more philosophical than were those from the no service group. One noted difference came in the *focus* of students' comments and attitudes. The majority (approximately 75 percent) of the service group's responses focused on issues outside of school. For example, many students in the service group discussed how they could "improve the world," "make the world a better place," "make life better for my family," and "make a difference in the lives of others." In contrast, the responses of the students in the no service group tended to focus on college, academic grades, and other school-related issues: "This class will determine if I get a 4.0 or not"; "This class will prepare me for college"; and "I like this class ... I learn a lot ... It has taught me good study skills." This difference in focus between the two groups suggests that service experiences potentially provide opportunities for students to expand their awareness of issues beyond school.

Outcome Differences Among Service Program Types

As with the first research questions, the researcher relied on a quantitative statistical approach and an inductive qualitative approach to determine whether there are differences in the outcomes between the four groups studied (community service, service-learning, service-based internship, no service).

Findings from the Quantitative Analysis

As with the ANCOVA's conducted for the study's first research question, the ANCOVA's for the study's second question used gender, ethnicity, and school site as conditions to control for initial differences among the groups; grade level and students' pretest domain scores were the covariates. The ANCOVA's were based on the same survey data that were employed in the quantitative analyses of the study's first question. Only now, the data from the three service groups were disaggregated and analyzed separately. The results of the analysis are detailed in Table 4.

Table 4. ANCOVA Results for Student Survey Four Program Types by Educational Domain

Variable	*Group**	*n***	*Adj. Mean****	*F*	*DF*	*Prob.*	η^2
Acad.	CS	53	3.05				
	SL	48	3.06				
	IN	38	3.01				
	NS	117	2.86	4.64	(3, 244)	.004*****	.05
Career	CS	48	3.22****				
	SL	48	3.22****				
	IN	40	3.20				
	NS	112	3.07	3.67	(3, 235)	.013*****	.04
Ethical	CS	53	3.08				
	SL	49	3.02				
	IN	41	3.04				
	NS	116	2.90	3.05	(3, 246)	.029*****	.04
Social	CS	53	2.95				
	SL	47	2.93				
	IN	38	2.90				
	NS	112	2.81	3.66	(3, 238)	.013*****	.04

Table 4. ANCOVA Results for Student Survey Four Program Types by Educational Domain (Cont.)

Variable	*Group**	*n***	*Adj. Mean****	*F*	*DF*	*Prob.*	η^2
Personal	CS	28	2.91				
	SL	46	2.91				
	IN	39	2.90				
	NS	95	2.82	2.21	(3, 195)	.088	.03
Civic	CS	48	2.98				
	SL	52	3.00				
	IN	42	3.08				
	NS	115	2.90	2.46	(3, 244)	.064	.03

Notes: * CS = community service, SL = service-learning, IN = service-based internship, NS = no service

** The sample size of each group varies in each domain because of missing values (e.g., some students did not respond to certain survey items).

*** Adj. Mean = mean of posttest domain score, adjusted for the covariates.

****The community service and service-learning adjusted means appear to be the same in the career (and personal) domains due to the rounding off of means to two decimal points. However, the only significant difference from Tukey in the career domain was between the community service and no service groups.

***** $p < .05$

The ANCOVA's revealed differences between program types at the .05 level of significance in four of the six domains: academic, career, ethical, and social. However, the effect sizes were small. The Tukey Test was performed for each of these four domains, revealing differences (significant if $p < .05$) between the community service and no service groups as well as between the service-learning and no service groups.

The finding that the service-learning group's academic domain adjusted mean was significantly higher than the no service group's adjusted mean is especially interesting to note, given the fact that enhancing students' academic development is usually an intended purpose of service-learning programs.

However, the fact that the community service group's adjusted mean was significantly higher than the no service group's adjusted mean in the academic domain is surprising since, by the definition used in this study, the community service programs were not connected to any particular academic curriculum (while the no service group was connected to academic curricula).

Findings from the Qualitative Analysis

In contrast to the significant findings of the quantitative analysis, the qualitative analysis found no identifiable domain patterns (outcomes relating to a particular domain) for any program type. All four groups studied—community service, service-learning, service-based internship, no service—had a substantial number of incidents of positive educational outcomes in all six of the educational domains. Based on data contained in student journals (eight journal entries) and student work collected from 25 randomly selected students from each of the four groups (n = 100), Table 5 displays the frequencies of the positive and negative outcome statements for each program type and educational domain.

The frequencies for this table were derived by identifying statements in the samples of student work that addressed a student outcome in one or more of the domains. First, each statement was identified as either a negative, neutral, or positive statement. Then, the "strength" of the statement was labeled as *strong* or *very strong*. The shaded areas in Table 5 represent the domains where one would expect to see the greatest, positive outcomes, based on the intended goals of the program types described earlier.

Table 5. Frequency of Positive and Negative Outcome Statements from Student Data: By Program Type and Domain (Based on a randomly selected Subsample of 100 Students)

	Community Service n = 25		*Service-Learning* n = 25		*Service Internships* n = 25		*No Service* n = 25	
	+	—	+	—	+	—	+	—
Academic	61	46	**82**	22	**68**	12	**91**	78
Career	81	31	61	24	**91**	37	19	29
Ethical	**54**	14	34	16	52	23	54	12
Social	72	32	62	37	88	42	78	46
Personal	101	59	83	33	90	43	58	68
Civic	**82**	19	**65**	17	56	9	14	15
TOTAL	451	201	387	149	445	166	314	248

The findings from this analysis dispel the notion that certain types of service programs promote particular outcomes. For example, while community service programs are intended to emphasize students' development of civic responsibility and ethical development, the analysis revealed that outcomes in the other domains, especially in the personal domain, were more positive and more frequent. Similarly, for service-based internship

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programs, the expected primary outcomes (career and academic development) were not overwhelmingly the primary outcomes witnessed among the students in that group.

Although percentage-wise, the overall positive responses were stronger and occurred more often for the service groups than for the no service group, there is no evidence that one type of service program dominates a particular educational domain or that one domain is predominant within a particular type of program. These findings suggest that the outcomes of service programs are defined more by the nature of the participating student than by the intended educational goals of the service program. These findings support Conrad's (1980) and Hamilton and Fenzel's (1988) study findings.

EMERGING THEMES ACROSS SERVICE PROGRAM TYPES

In comparing data within and across the meta-matrix cells, it appears that service programs, regardless of type, all contain some characteristics that enhance students' development across the six educational domains. In investigating what these characteristics might be, a set of common themes across the service program types emerged. A better understanding of these themes can help us more effectively determine how service programs affect students' educational development. In most cases, these themes are manifestations of experiential education theories at play.

The Individualized Nature of Service Programs

As the results of the analysis reveal, there are no definitive outcomes for particular *types* of service programs. Even when the researcher focused the analysis on the outcomes of student within a classroom, no consistent patterns among the student participants emerged. In other words, not all students who participated in the same classroom program were affected in the same way. In one history class, for example, 23 students all worked on a service-learning project that involved an analysis of violent crime in their neighborhood. In analyzing the educational outcomes of this program for the students in the class, it was difficult to find specific, common outcomes among the students. In interviews, journals, and samples of student work, some students in this class (n = 11) discussed how they gained a better appreciation of history (*academic development*) as the crime rate in their neighborhood had risen steadily for the last 20 years.

However, other students (n = 7) in the class focused their discussions and writings on how the service-learning class allowed them to explore

potential careers in the criminal justice system (*career development*). The other students ($n = 5$) focused on how the class helped them have a better appreciation for *civic responsibility*. Similar variations in outcomes were noted in the analyses of the other classrooms participating in this study. Thus, there is some evidence to suggest that the outcomes of service vary from student to student, even when students work on the same project.

Empowering Students through Meaningful Service Experiences

The students who were most profoundly influenced by their service experience were engaged in meaningful service activities in which they had some responsibility, some interest, and/or were challenged to some degree. The strongest, most positive statements about service experiences tended to come from students who felt that they were being "treated like an adult" or were being "treated with respect" by members of the community. When the service activity provided students with opportunities to take on adult-like roles, students appeared to feel more empowered by writing about gaining their self-respect and being able to make a difference in the world.

The data reveal that when the students were challenged to take on adult roles, they tended to be more eager to meet that challenge and prove to their teachers, their service partners, their peers, and most importantly themselves, that they could get the job done and do it well. While the empowerment students gain from service appears to influence students' personal development the most, there is some indication that it also may lead to students taking more interest in school and their community (academic and civic development), as well as a means to take on leadership roles among peer groups (social development).

The most negative comments from students about their service experiences were from students who were disappointed with their community placements. When students indicated that they performed service that they described as "useless," "meaningless," "boring," or "pointless," the level of empowerment for these students was very low. In most of these cases, students either followed orders given by adult supervisors or were left to fend for themselves in an unstructured, non-nurturing atmosphere. It is interesting that the degree of satisfaction and overall influence on the students were lowest when the service activities provided students with few opportunities to take on leadership roles. It is likely that when students are engaged in service activities where they "have some control" and are "really making a difference," the overall educational outcomes of the service projects will be greater and more positive in all domains.

Believing in the Cause

Another theme, related to the empowerment theme, which emerged from among the data, revolved around students' belief in the cause that their service activity attempted to address. Since the purpose of service programs is to benefit someone (the service provider, the service recipient, or both), a reason for engaging in the service activity must be present.

Several aspects of the data suggest that the "cause" surrounding the service activity is often the determining factor as to whether the students will engage themselves fully in the activity. Data from teachers during their focus group interviews (n = 13) revealed that service projects seem to fail most often when the service activities are not intriguing or interesting to the students.

Observations of students engaged in their projects revealed similar findings. In many instances, students held passionate discussions with their fellow students about the particular *cause* they were addressing at their service activity. This was especially true among those students who were serving in agencies that addressed social causes (e.g., homelessness, drug abuse, violence, recycling, health awareness, etc.). Students who served in more industry-related organizations (e.g., media centers, hospitals, schools) tended to be less inclined to argue for or actively promote their causes. Nevertheless, the students who had the more positive service experiences were more likely to express some affinity to the issues addressed in their placements.

The Fostering of Partnerships and Collaborations

A final theme that emerged from the data was the way the service programs fostered collaborations and partnerships not only between students and their community agency supervisors, but also among students and between students and teachers. In almost all of any of the service programs, especially the service-learning classes, students from various cultural, racial, and ethnic backgrounds formed collegial working groups in which students pulled together to work on a common issue. The study findings suggest that the diverse groupings did not create tension among the students in the groups, even when such tensions were reported by several teachers to have existed prior to the start of the service activities. As one teacher stated:

> Students who I never thought would work together are now buddying up on a service project. When I asked them about this, they said they both care

> enough about the issue at hand to put their differences aside.... I found this to be an extremely mature move on their part, much to my own surprise.

The development of various types of collegial bonds, working relationships, and friendships formed as a result of the engagement in a service experience, were evident among several data sources. Students, teachers, and community agency representatives alike provided numerous indications that the service experiences helped students feel like they belonged to a group and provided students opportunities to establish new friendships and personal relationships.

IMPLICATIONS OF THE STUDY FINDINGS

Beyond simply highlighting the potential outcomes of service programs, the findings of this study have several implications for better understanding *how* service programs affect students. In addition, the findings provide insights for developing more effective means of researching the outcomes of service programs on students' educational development.

Unintended Outcomes of Service Programs

One implication of the study findings is that service program outcomes go beyond their intended educational goals. While it can be assumed that most school-sponsored service programs operate with particular educational goals in mind, the ultimate outcomes of the programs seem to be more dependent upon the unique interactions between the student, the service activity, the community, and a host of other influences than upon any predicted or predetermined goal.

If researchers base their outcome measures only on expected or predetermined outcomes, then it is likely that much information about the actual outcomes and impacts of service programs will be lost. Designs of future studies of service program outcomes should be able to cast a net that is wide enough to ensure that the unintended outcomes of programs are captured. The utilization of only a limited set of measures is likely to capture a small snapshot of a broad and lush landscape.

Clarifying Program Definitions

Although this study sought to clarify how different types of service programs affect students, the study found few discernible differences in out-

comes between program types. One reason for this might be that the terms used to define service program types are not used consistently in the field. Terms such as volunteerism, community service, service-learning, internships, field education, field studies, community-based education, and community service-learning are sometimes used interchangeably (Furco, 1996; Stanton, 1987). In reviewing the literature on service program studies, the definitions for the terms used to label the programs under investigation were not consistent across the studies. One researcher's definition of internship is another researcher's definition of service-learning.

Even among the students and teachers who participated in this study, the same program had many labels. During one classroom observation conducted by the researcher, one student commented "I'm doing my service-learning internship tomorrow," to which his classmate replied, "I'm all done with my community service." While the researcher of this study had divided the 24 service classrooms and programs into the three groups according to predetermined definitions of service program types, the distinctions among these types were not always obvious to the students and, in some cases, to the teachers. Perhaps the inconsistencies in the way service programs are labeled may have some influence on how students approach the program and perhaps may also influence the ways in which student outcomes are fostered.

Researchers studying service programs should clearly define what type of service program(s) they are studying. A better understanding of the similarities and differences among the various types of service programs must be explored further so that a common, more universally accepted set of understandings about the various service programs types and their educational outcomes for students can be developed.

Employing Comprehensive Research Methodologies

The findings of the study also have implications for methodologies to be used in future service research. The use of quantitative and qualitative approaches in conducting this research appeared to be a valuable aspect of the study. While the quantitative data were able to show statistically significant results, the qualitative analyses were able to capture the subtleties and idiosyncrasies of individual students and programs. While service program researchers are under increasing pressure to produce quantitative data on service program impacts, quantitative data analyses should be complemented with qualitative approaches. If this study had included only a quantitative analysis, the findings of the study would have been significant, but many of the emerging themes likely would not have been identified.

In addition to employing quantitative and qualitative analyses, service program researchers also need to employ more comprehensive and methodologically sophisticated research designs. The findings of this study confirm existing beliefs that service programs are complex enterprises that are defined by the nature of service activities, the individuals who serve in them, the school environment within which the programs operates, and the community in which the service activities take place (Kendall & Associates, 1990). Therefore, service program research must move beyond using a pre/post survey and/or a journal reflection essay as the primary means for assessing student outcomes.

Service research designs must be comprehensive enough to take into account many of the program variations that exist, such as the length of the service activity, the degree to which students reflect on their service experiences, the varying intensities of the service projects (reading to a child who is dying of cancer versus painting a mural as part of a graffiti abatement program), the nature of the students' working groups (individual service activities versus small or large group service projects), the degree of choice students have in selecting their project, and a host of other variables. Even within a small service program, there are numerous variables for which there must be some account.

Stronger evidence of the impacts of service programs on students might be garnered with more sophisticated research designs. Hierarchical linear modeling and some of the other more sophisticated approaches can be useful in measuring a variety of service program impacts by incorporating various units of analysis (students, classrooms, program types, schools) across a variety of sites. However, the service field still has a long way to go before the utilization of such designs become standard. The field still needs to solidify its definition of the various types of service programs and develop a formal theory for how service programs impact students' educational development.

CONCLUSION

Despite the idiosyncratic nature of the 24 service classrooms studied, and the individual nature of service programs in general, the emerging themes identified in the study reveal some interesting characteristics about how service programs affect students. The study found evidence across all three types of service programs included in the study (community service, service-learning, and service-based internship) that service can help students: feel empowered as they take on leadership and adult-like roles; engage in service activities that allow them to further explore interests and talents; engage in collaborative work that is centered around a cause of mutual

interest; form new collaborations, friendships, and relationships; and feel a sense of ownership and pride for their service activity. These themes did not emerge from among the ten "no service" classrooms studied.

The fact that these common elements were found suggests that perhaps these themes (and possibly others that were not captured in this study) are potential core service program elements that have a bearing on students' development in the six outcome domains. The presence of these themes also supports the notion that service programs are universal and potentially transcend artificially imposed classifications such as grade level, academic discipline, and program labels. Perhaps these core elements take on different shapes based on the individual characteristics of those who serve, the nature of the service activity, and a variety of other factors. Or perhaps there is an essential interplay of these elements (and possibly others) that create a particular environment that ultimately cause students to be affected in different ways. These are the issues that need to be explored further in future research studies.

It appears that the research on service programs should move away from trying to find *direct* links between students' participation in service programs and outcomes in the six domains to investigating the role of these core elements in influencing student outcomes in the six domains. A better understanding of these intermediate conditions cannot only provide valuable information about student development in each of the six domains (Billig, 2000), but it can also help researchers better predict how certain students will be impacted by particular types of service programs. This could be the key to developing an impact theory for school-sponsored student service programs.

Specifically, the theory should help explain how the interplay of the core conditions common to all service programs have a bearing on students' educational outcomes in the six domains. This theory might be based on stages of service development that delineate a cycle of change that students undergo as they engage in service. This theory could be patterned after a theory like Kolb's learning theory which established a four-stage cycle whereby learners move from concrete experiences, to reflective observation, to abstract conceptualization, to active experimentation (Kolb, 1984). For example, a possible theory for service programs might explain how the service experience first provides students an opportunity to explore their interests (personal development) and helps them form relationships with their peers as they develop their projects (social development). This then leads to a greater sense of belonging and group affinity (social development). As the students engage in their service projects, they begin to develop a sense of contributing something to society (civic and ethical development) while learning some new knowledge and skills (academic and career development). Hence, this leads to a feeling of empow-

erment and greater self-esteem, which in turn increases students' motivation to learn. Finally, with the improved self-esteem and motivation, students' academic work improves, further boosting their self-esteem.

While this cycle is purely hypothetical and speculative, it exemplifies the kind of transformational theory that needs to be developed in order for the service field to move closer to a better understanding of how various types of service programs might impact students. While the establishment of such a theory is still far off in the future, it will be needed as more K-12 schools incorporate service programs at their sites.

REFERENCES

Alt, M.N., & Medrich, E.A. (1994). *Student outcomes from participation in community service.* Berkeley, CA: MPR Associates.

American Vocational Association. (1994). *The School-To-Work Opportunities Act: A status report.* Alexandria: American Vocational Association.

Andersen, S. (1998). *Service-learning: A national strategy for youth development.* Position paper issued by the Education Policy Task Force, Institute for Communitarian Policy Studies. Washington, DC: George Washington University.

Bhaerman, R., Cordell, K., & Gomez, B. (1998). *The role of service-learning in educational reform.* Needham, MA: Simon & Schuster.

Billig, S.H. (2000, May). Research on K-12 school-based service-learning: The evidence builds. *Phi Delta Kappan, (81)*9, 658–664.

Boud, D., Cohen, R., & Walker, D. (1993). *Using experience for learning.* London: Society for Research into Higher Education.

Bruner, J.S. (1960). *The process of education.* Cambridge, MA: Harvard University Press.

Conrad, D.E. (1980). *Differential impact of experiential learning programs on secondary school students.* Unpublished doctoral dissertation. University of Minnesota.

Conrad, D.E., & Hedin, D. (1981). National assessment of experiential education: Summary and implications. *Journal of Experiential Education, 4*(2), 6–20.

Conrad, D.E., & Hedin, D. (1989). *High school community service: A review of research and programs.* Madison, WI: National Center for Effective Secondary Schools.

Conrad, D., & Hedin, D. (1991). School-based community service: What we know from research and theory. *Phi Delta Kappan, 72*(10), 743–49.

Corporation for National Service. (1993). *The National and Community Service Trust Act of 1993.* Washington, DC: Corporation for National Service.

Delve, C.I., & Mintz, S. (1990). *Community service as values education: New directions for student services.* San Francisco: Jossey Bass.

Dewey, J. (1938). *Education and experience.* New York: Macmillan.

Eyler, J., & Giles, D.E. (1999). *Where's the learning in service-learning.* San Francisco: Jossey-Bass.

Freire, P. (1970). *Pedagogy of the oppressed.* New York: The Continuum International Publishing Group, Inc.

Furco, A. (1994). A conceptual framework for the institutionalization of youth service programs in primary and secondary education. *Journal of Adolescence, 17*, 395–409.

Furco, A. (1996). Service-learning: A balanced approach to experiential education. In B. Taylor (Ed.), *Expanding boundaries: Serving and learning* (pp. 2–7). Washington, DC: Corporation for National Service.

Gardner, J.W. (1984). *Excellence: Can we be equal and excellent too?* New York: W.W. Norton & Company.

Giles, D.E., & Freed, J.B. (1985). The service-learning dimensions of field study: Cornell's human ecology field study program. In J.C. Kendall & Associates (Eds.), *Combining service and learning: A resource book for community and public service* (Vol. II, pp. 349–360). Raleigh, NC: National Society for Internships and Experiential Education.

Goodlad, J.I. (1984). *A place called school: Prospects for the future.* San Francisco: McGraw-Hill Book Co.

Hamilton, S.F., & Fenzel, L.M. (1988). The impact of volunteer experience on adolescent social development: Evidence of program effects. *Journal of Adolescent Research, 3*, 65–80.

Kendall, J.C., &Associates. (1990). *Combining service and learning: A resource book for community and public service* (Volumes I & II). Raleigh, NC: National Society for Internships and Experiential Education.

Kingsley, C.W., & McPherson, K. (1995). *Enriching the curriculum through service-learning.* Alexandria, VA: Association for Supervision and Curriculum Development.

Kohlberg, L. (1984). *Essays on moral development, Vol. 2: The psychology of moral development.* Englewood Cliffs, NJ: Prentice-Hall.

Kolb, D.A. (1984). *Experiential learning: Experience as a source of learning and development.* Englewood Cliffs, NJ: Prentice-Hall.

Lave, J. (1988). *Cognition in practice: Mind, mathematics and culture in everyday life.* Cambridge: Cambridge University Press.

Perry, W.G. (1970). *Forms of intellectual and ethical development in the college years: A scheme.* Troy, MO: Holt, Rinehart & Winston.

Piaget, J. (1954). *The construction of reality in the child.* New York: Ballantine Books.

Shumer, R. (1994). Community-based learning: Humanizing education. *Journal of Adolescence, 17*(4), 357–367.

Stanton, T. (1987, Feb.). Service learning: Groping toward a definition. *Experiential Education, 12*(1), Raleigh, NC: National Society for Internships and *Experiential Education, 2*(4).

Wade, R.C. (1997). *Community service learning: A guide to including service in the public school.* Albany: State University of New York Press.

Waterman, A.S. (1997). *Service learning: Applications from the research.* Mahwah, NJ: Lawrence Erlbaum Publishers.

Part II

THEORETICAL APPROACHES TO UNDERSTANDING SERVICE-LEARNING

CHAPTER 3

CIVIL SOCIETY, SOCIAL TRUST AND THE IMPLEMENTATION OF SERVICE-LEARNING

James C. Toole

If you read the literature, change comes across as a remarkably bloodless activity: establish a vision, design the program, paint by the numbers. We interrupt this program to deliver a dose of reality: it doesn't work that way. In the real world of change, leaders desert you, your staunchest allies cut and run, opposition comes from the places you least expect, and your fiercest opponent can turn out to be your most vital supporter. In other words, when emotions are running high and the stakes are even higher, people act like people.

—Charles Fishman (1997, p. 66)

The remedy for the chaotic uncertainty of the future is contained in the facility to keep and maintain promises.

—Hannah Arendt

In his 1995 essay "Bowling Alone: America's Declining Social Capital," Harvard professor Robert Putnam set off a nationwide debate and uproar over the state of America's civic engagement (Lemann, 1996). The work's title alluded to the fact that more Americans today were bowling than ever before, but participation in organized leagues had "plummeted." The example stood as a single snapshot of how America's citizens, known at least since the time of Alexis de Tocqueville (1961/1840) for their wide participation in public life, were rapidly becoming more passive and self-involved.

Putnam (1993) was no newcomer to this topic. He had studied local government in Italy for 20 years. In explaining why the governments in the

prosperous north outperformed the poverty-stricken south, he concluded that the critical difference was the formal and informal social bonds and networks that existed between people in the north. Instead of the more often cited physical capital (e.g., land, buildings, machines) or human capital (e.g., individuals' skills and knowledge), Putnam (1995) turned to "social capital" to explain economic success. Some regions were rich in the "networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit" (p. 67).

In the years since Putnam's essay, there has been an increasing conversation about the importance of civil society and what kind of civic education is needed to produce it. A regional dialogue (Grantmaker Forum on Community and National Service, 1998) and a National Study Group on Citizenship in K-12 Schools (Education Commission of the States, 2000) both concluded that service-learning holds great promise as a tool to engage students in the development of a civil society. Such a link moves service-learning pedagogy's *potential* outcomes beyond any single service project to a deeper and more pervasive revitalization of community life.

This chapter seeks to extend the conversation linking service-learning and civic society/social capital in a new direction. It takes as its starting point that schools themselves must be civil societies and, much like Putnam's regional governments in northern Italy, their social capital will influence their ability to fulfill important goals. It reverses the discussion on whether service-learning fosters civil society to explore whether a level of civil society in schools (in the form of social trust) must exist to *implement* service-learning. From this perspective, the relationship between service-learning and civil society becomes circular or reciprocal (i.e., they are mutually cause and effect for each other). In other words, a school must have social capital to produce social capital.

This is not a foreign idea to those involved in school change. Over a decade ago, Barth (1990) pointed out that: "...the relationships among adults in schools are the basis, the precondition, the sine qua non that allow, energize, and sustain all other attempts at school improvement. Unless adults talk with one another, observe one another, and help one another, very little will change" (p. 32). The overcoming of faculty isolation has been frequently addressed in the growing literature on professional learning communities (Toole & Louis, in press). Respect and trust have been discovered to be important elements in the development of professional community (Louis, Kruse & Associates, 1995), the quality of teacher work life (Louis, 1992), teacher commitment (Louis, 1992), and the process of change (Hargreaves, 1992).

Although social capital may be important to educational productivity, many schools today remain uncivil societies. Instead of bowling alone, teaching alone is a seminal metaphor (Little, 1990; Lortie, 1975). Barth

(1990) writes that teachers commonly engage in "parallel play," where isolation becomes valued. He also observes that school days commonly include a diet of adversarial relationships (disagreements, gossip, and interpersonal conflict), and/or competition (teachers "extraordinary reluctance" to share as teachers compete for resources and recognition). Huberman (1993, p. 12) refers to all this as "a soap opera or ... an interpersonally dense, combustible social hothouse..." Although collaborative schools exist, the teaching culture in many others feature either individualism (teacher isolation), balkanization (teachers divided into "city-states"), or contrived collegiality (that mandated by the administration) (Hargreaves, 1992).

What would schools as civil societies look like? Putnam (1993, 1995, 2000) identifies social trust as one of the central ingredients in civil society and social capital. It helps hold the web of relationships together through which individuals can work more productively together. Given its central role, this chapter examines the differing levels of social trust found among faculty in seven elementary and middle schools and its impact on service-learning implementation. The chapter begins by examining the nature of social trust, why it matters, and its special relevance to service-learning. It then discusses the study design, the results, and the implications of social trust for service-learning and school change.

THE NATURE OF SOCIAL TRUST

In our everyday lives, trust is a multidimensional concept that permeates everything we do. We trust a spouse to pay the mortgage on time (i.e., trust as reliability); we trust the doctor who operates on us (i.e., trust as competence); we trust our children when they tell us where they are going (i.e., trust as honesty); we trust that our boss is telling us the whole story about changes in the office (i.e., trust as openness); and we trust the good will of the babysitter who takes care of our infant (i.e., trust as benevolence). We may not notice trust on a day to day basis because, as philosopher Annette Baier (1985) explains: "Most of us notice ... trust most easily after its sudden demise or severe injury. We inhabit a climate of trust as we inhabit an atmosphere and notice it as we notice air, only when it becomes scarce or polluted" (p. 234, quoted in Hoy & Tschannen-Moran, 1998).

Although social scientists have long acknowledged the importance of trust to both interpersonal and intergroup relationships, only recently have scholars started to systematically study its role in organizational life (Hoy & Tschannen-Moran, 1998; Sitkin & Stickel, 1996). Policymakers and researchers are now demanding clarification about what it is, how it is cre-

ated, and in what particular ways it affects organizational performance (McBride & Skau, 1995).

What is needed is a clear operational definition, something made difficult by the fact that social trust possesses multiple dimensions, stages, contexts, and meanings. After reviewing the growing literature of more than 150 articles on trust over the past 40 years, Hoy and Tschannen-Moran (1998) concluded that what all of the different definitions have in common is "vulnerability." The greater the vulnerability, the greater the need for trust. For most teachers, for example, it might be assumed that they feel more vulnerable being observed teaching a lesson than in discussing the same class casually over lunch with a colleague. As Bryk and Schneider (1996) articulate this premise: "Trust represents a calculation whereby an individual decides whether or not to engage in an action with another individual that incorporates some degree of risk" (p. 4).

Hoy and Tschannen-Moran (1999) provide an important service by classifying the types of "calculations" that people make when they decide whether to trust another staff member. They describe the five "faces" of trust that were cited previously:

- **Benevolence**: "The confidence that one's well-being or something one cares about will be protected by the trusted person or group."
- **Reliability**: "The extent to which one can count on another to come through with what is needed."
- **Competence:** "Some level of skill is involved in fulfilling an expectation."
- **Honesty:** "The expectancy that the word, promise, verbal or written statement of another individual or group can be relied upon."
- **Openness:** "The extent to which relevant information is not withheld."

When these authors developed and validated instruments to measure the five faces of trust, they found that all five faces varied together to form a coherent concept. Common sense reinforces that if a person is competent but not honest, benevolent but not reliable, or open but not benevolent, he or she would lose our trust. This led to the following definition: *"Trust is one party's willingness to be vulnerable to another partly based on the confidence that the latter party is (a) benevolent, (b) reliable, (c) competent, (d) honest, and (e) open"* (p. 8). This paper utilizes Hoy and Tschannen-Moran's five faces to locate and analyze the role that social trust plays in service-learning implementation.

Teachers' judgements or calculations about whether to trust each other in any school change effort are inherently fragile. That is because relationship trust involves people's intentions as well as their actions (Bryk & Schneider, 1996). People in schools make judgements not only about

whether people's actions are trustworthy, but whether their intentions are good and right. Trust is about "doing the right thing" *and* about being perceived as "doing it for the right reasons." This makes the standard for being considered trustworthy higher.

WHY TRUST MATTERS TO SERVICE-LEARNING IMPLEMENTATION

While national surveys demonstrate that teachers in many schools use service-learning, the actual number in any one building is quite small (U.S. Department of Education, 1999). In other words, it has proven difficult to spread service-learning laterally from teacher to teacher. Service-learning may be more complex to implement than many other innovations (Toole, 2001). That is because it upsets what Tyack and Cuban (1995) have called the traditional "grammar of schools." It challenges both teachers' beliefs about how students learn (what Toole [2000] calls their "learning grammar") and about their school's organizational features (the "organizational grammar"). Despite these obstacles to implementation, the great majority of current service-learning research focuses on service-learning's potential impact on academic, civic, developmental, and career outcomes (Billig, 2000; Conrad & Hedin, 1991).

How are we to better understand service-learning implementation? Social trust may be particularly important to service-learning because it is a "relationship-rich" pedagogy. The very reason that service-learning is a potentially powerful tool to foster civil society—that its very existence depends on community participation and partnership—makes its implementation vulnerable in a way not shared by all other educational innovations. At the very core of service-learning are robust notions of youth, teacher, and community collaboration. Quality service-learning therefore asks people to redefine and strengthen a series of relationships at the center of education: student to student, teacher to teacher, student to teacher, student to their own learning, and school to community.

Each of these redefinitions involves risk and therefore requires increased levels of trust. Rather than sitting at a desk, students may be involved in tasks that demand daily teamwork with their classmates. Teachers who previously taught behind closed classroom doors now participate in a cross-age project with teachers in lower grades. Teachers and students serve together in a nursing home or homeless shelter where they encounter places and people that are new to both of them. Classroom management may now involve supervising 30 students with gardening tools in a city park. Schools and nonprofit organizations that partner together must search for a common language and set of expectations to cooperate on a

project. All of these new relationships offer rich opportunities to build social capital, but they also bring vulnerability. Not surprisingly, service-learning is often described as "adventurous" and "high-risk" by the very teachers who perform it (Toole, 2001).

There is a second important reason why social trust matters to service-learning. If schools do not become civil societies themselves, then a mismatch develops between the stated goals of service-learning (i.e., to build social capital and civil society in the community) and the organization itself (i.e., the school as an uncivil society). What can occur is that Putnam's argument about the declining state of American society becomes replicated within schools. Teachers can choose private life (i.e., isolated classroom practice) over public life (i.e., collaboration or joint work). They can foreswear civic duty (i.e., a sense of collective responsibility for the success of the whole school) in favor of focusing on the proverbial "my kids, my class, this year."

STUDY DESIGN

This chapter represents a secondary analysis of a larger study of service-learning implementation in seven elementary and middle schools in seven states studied from the fall of 1996 through the spring of 1999 (Toole, 2001). Schools are filled with multiple relationships involving administrators, teachers, other staff, parents, students, and the community where trust might become an important issue. This study focuses mainly on teacher-to-teacher trust. A small amount of quantitative data is presented on teacher-to-principal trust for purposes of comparison. The central research questions in this secondary analysis were:

1. *What types of trust issues arise among teachers in service-learning implementation?*
2. *How does social trust influence the ability of schools to implement service-learning?*
3. *Does the specific character of an innovation—in this case service-learning—raise unique trust issues?*

A fundamental question in designing the study was how to locate and identify the role of social trust in the implementation process. School improvement inherently involves a wide and divergent set of tasks (i.e., it is a prime example of multitasking). Effective change agents, for instance, can't focus exclusively on providing leadership for the innovation. They must also think how staff will learn to use the innovation, manage the internal and external politics, and successfully align the innovation with the

organizational structures. Each of these tasks represents what Hargreaves, Shaw, and Fink (1997) call change frames. While there are no set number or givens about what the frames should be, these authors identify seven frames as central to school improvement—the purpose, cultural, structural, political, leadership, learning, and emotional. By using different change frames, it is possible to generate multiple perspectives on a single phenomena like service-learning implementation (Bolman & Deal, 1997; Carlson, 1996; Louis, Toole, & Hargreaves, 1999; Morgan, 1997).

This study employs six of the seven frames as different windows through which to view and analyze how social trust operates within the implementation process. The emotional frame was not deconstructed separately because the focus on social trust meant that it would appear in all the other frames. Table 1 presents the names, core question, and description of each frame (adapted from Toole, 1998; Louis, Toole, & Hargreaves, 1999).

This chapter takes the narrow focus of the specific role that trust played in each of the change frames for service-learning implementation. Its modest goal is not to isolate trust as the primary cause of school's implementation problems (i.e., as *the* offending variable), but to identify where issues of social trust manifest in the implementation process and how they affect teachers. We know from a great deal of research that other factors beyond social trust influence each of the seven frames. In the purpose frame, for instance, the ability of a school to create a shared aspiration among the staff involves principal leadership (Leighton, 1996) and the socialization of new staff members (Rosenholtz, 1991). What follows is a presentation of data and discussion about how and where social trust affected schools' ability to fulfill each of these six tasks in the context of service-learning implementation.

SAMPLE

The participating schools were selected because they already belonged to and had received four years of funding from a national network of service-learning schools sponsored by the National Youth Leadership Council and funded by the Dewitt-Wallace/Reader's Digest Fund and the W. K. Kellogg Foundation. The Generator School Network consisted of seven regional partner organizations spread throughout the United States that eventually consisted of 40 elementary and middle schools serving higher percentages of students from lower-income communities.

This study used purposeful sampling, seeking to select schools to participate that would maximize learning about the core research questions. Since the original study's intent was to learn how schools moved to an advanced stage of service-learning implementation, the regional partners

Table 1. Change Frames

Frame	*Core Question*	*Explanation*
Purpose	What is the purpose of implementing service-learning?	Purpose is critical to implementation in fields like education that involve moral as well as technical considerations (Hargreaves & Fullan, 1998). The challenge of the purpose frame is to develop staff commitment to a clear and compelling purpose about how the innovation will enhance the school's pursuit of high quality learning (Newmann & Associates, 1995).
Structural	How does a school organize to support teachers' service-learning use?	Much of recent school change has been focused on "restructuring" how schools are organized as a means to foster new and improved classroom teaching and learning (Elmore,1995; Elmore, Peterson, & McCarthey, 1996; Smylie & Perry, 1998). Schools shape the everyday patterns of teachers' classroom practice through structural tools like class schedules, student grouping, teacher assignments, use of space, and divisions of subject matter.
Learning	How does faculty collectively learn to use service-learning	On an individual level, older notions of one-shot, prescriptive staff development events are seen as ineffective (Hall & Hord, 1987). The notion of collective learning has become central to change (Leithwood & Louis, 1998; Senge, Cambron-McCabe, Lucas, Smith, Dutton, & Kleiner, 2000).
Leadership	Does the school possess authentic and inclusive leadership for service-learning	Like the learning frame, the leadership frame has undergone tremendous rethinking. Leaders are seen more as facilitating rather than commanding change. This is done by sharing or distributing leadership and ownership throughout an organization (i.e., what Morse, 1997 calls the shift from "leadership pyramids" to "leadership plazas").
Political	How do you build support for implementation and manage the conflicts that it creates?	The first part of the question focuses on setting an agenda and building a coalition of support among faculty members. The second part recognizes that the implementation of service-learning brings not only new ideas to a school, but winners and losers. Status, influence, power, and resources get contested in the micropolitics of the school (Blasé, 1991). School improvement leaders must manage the inevitable conflicts that they create.
Cultural	Does the school culture support the implementation of new ideas like service-learning?	The challenge is how schools can build cultures that support improvement efforts. Perhaps most prominent from a cultural perspective is the issue of teacher collegiality and collaboration (McLaughlin & Talbert; 1993, Toole & Louis, in press). Collaboration is of particular importance to service-learning because it invites cross-age teaching and mentoring to happen in the school, something that will occur only if teachers are willing to plan and conduct joint work.

selected seven schools that had made the most progress based on three critical attributes related to service-learning: the school's widespread use, depth of practice, and longevity of practice. Table 2 presents descriptive and demographic information about each of the study sites (all school and individual names in this chapter are pseudonyms).

Table 2. School Descriptions and Demographic Information

Schools	*Grade Levels*	*Geography*	*Total # of Students*	*Free or Reduced Lunch %*	*Student Ethnicity*
Willow	5–8	Small town, rural	886	22%	White 93% African American 5% Other 2%
Hamilton	6–8	Urban	240 (part of a K-8 School)	83%	White 32% Asian 29% African American 20% Latino/Hispanic 12% American Indian 7%
Mountain View	K–6	Small town, rural	475	60%	White 65% Latino/Hispanic 32% Asian 2% American Indian 1%
Metro	PreK–6	Urban	426	82%	African American 92% White 6% American Indian 2%
Anderson	7–9	Urban	732	37%	African American 58% White 41% Asian 1%
Arroyo	6–8	Rural	192	72%	American Indian 99% White 1%
Carver	K–8	Urban	500	10%	White 65% African American 35%

MEASURES

Bryk and Schneider's (1996) scales for faculty and principal trust (developed before Hoy and Tschannen-Morans' study) were used in this research to measure trust. The teacher-to-teacher scale (also called faculty trust) used all six items from their work, and the principal-to-teacher scale (also called principal trust) used four of the six items. The scales capture some but not all of the dimensions expressed by Hoy and Tschannen-Moran. The faculty scale (alpha = .78) includes elements of competence (respect for one another), benevolence (care about one another and the local com-

munity), and honesty and openness (okay to share feelings). The principal scale (alpha = .89) includes elements of benevolence (looks after personal welfare and respects staff), honesty (trust his word), and openness (okay to talk about feelings).

In order to measure institutionalization, survey questions were constructed relying on a review of the literature of service-learning and of the institutionalization of innovations generally. Wuthnow's (1987) definition of the four ingredients necessary for institutionalization of any organizational change was used as a framework:

- *Autonomy* (differentiation or identity for the innovation);
- *Social resources* (available for the costs incurred in developing and disseminating the innovation);
- *Communication and organization* (an internal system to coordinate the various activities involved in reproducing the innovation); and
- *Legitimacy* (required to sustain favorable relations with centers of power such as potential recruits of the state).

Questions were created that addressed each element. They were then revised after feedback and suggestions from several service-learning practitioners not associated with the seven research sites. The reliability of the four sub-scales ranged from .70 to .83, but the combined reliability, that is the reliability of the single learning scale encompassing all of the items, jumped to .92.

Although it was not originally a central focus of this study, trust issues emerged repeatedly during the investigation at every site. It was such a compelling theme in early site visits that individual items (beyond the generic trust scales) were added to later faculty surveys to better gauge how common those feelings were across the entire staff. For instance, individual teacher reports of teacher disagreements over service-learning implementation led to creating the survey question: "The implementation of service-learning has created divisions and conflict among our staff." Table 3 presents the items used in the scales to measure teacher to teacher trust and teacher to principal trust.

Table 3. Two Trust Scales

Teacher to Teacher Trust Cronbach α = .78 (item-to-scale correlations .37 to .66)		**Teacher to Principal Trust** Cronbach α = .89 (item to scale correlations .45 to .72)	
Survey Items	Mean (SD)	Survey Items	Mean (SD)
To what extent do you feel respected by other teachers?[a]	**3.40** (.65)	*To what extent do you feel respected by* the principal?[b]	**3.28** (.85)
Most teachers at this school are cordial.	**3.32** (.57)	(The principal) works to create a sense of community in this school.	**2.99** (1.06)
(Teachers in this school) Really care about each other	**3.07** (.72)	The principal looks out for the personal welfare of faculty members	**2.96** (.89)
It's okay in this school to discuss feelings, worries, or frustrations with other teachers.	**2.98** (.69)	I trust the principal at his or her word	**2.90** (.95)
Teachers respect other teachers who take the lead in school improvement efforts	**2.97** (.66)	It's okay in this school to discuss feelings, worries, or frustrations with the principal	**2.74** (.97)
(Teachers in this school) Really care about this local community.	**2.84** (.67)		
Teachers in this school trust each other	**2.79** (.68)		
Four-point scale: strongly disagree, disagree, agree, strongly agree.		Four-point scale: strongly disagree, disagree, agree, strongly agree.	
[a]Four-point scale: Not at all to a great extent		[b]Four-point scale: Not at all to a great extent	

Note: N = 216

DATA COLLECTION

Data were gathered by the author of this chapter through four site visits, each between two to five days, spread over three years. The total research sample studied within the seven schools for the 1998–1999 school year included 265 adult staff members (75 percent classroom teachers and 25 percent non-load bearing teachers, administrators, and counselors).[1]

The goal of the original and larger study was to examine the role of professional learning community and teachers' instructional mental models on service-learning implementation (Toole, 2001). Both qualitative and quantitative methods were used. Semi-structured interviews were con-

ducted with principals and with teachers who used service-learning. Focus groups were also held with service-learning users and nonusers about their perspectives on the implementation process. Both individual interviews and focus groups were tape recorded, transcribed, and analyzed by the author. Issues of social trust were not directly addressed in the interview protocol, but arose as a natural part of conversations about the larger notion of professional learning community.

Survey instruments were used with staff in the seven schools to identify teachers' attitudes and levels of use of service-learning, their perspectives on their schools' professional community, and questions specific to different change frames. Surveys were administered by the researcher at after-school faculty meetings except in two cases where the staff filled them out privately and returned them personally to the researcher on his visit to the school. Lastly, the study included limited observations of school life and classroom service-learning lessons.

For this secondary analysis, the author reanalyzed portions of the qualitative and quantitative data about implementation from the study with a focus on social trust. Qualitative data were reanalyzed in three steps. First data were coded to identify issues of trust (i.e., issues of vulnerability around implementation). Secondly these coded data were analyzed and reanalyzed to be placed within the six frames. Some data, not surprisingly, affected more than one frame, so decisions were made about which frame was most central to a particular finding. Lastly, the data within each frame were analyzed to explore how trust affected that particular frame (i.e., how were teachers made vulnerable).

DATA ANALYSIS

In order to analyze the role of social trust in the complex and multifaceted implementation process, Hoy and Tschannen-Moran's (1999) five faces of social trust provided a screen for *what to look for,* and change frames provided a screen to locate *where to look.* The resulting analysis revealed that trust issues arose in all six frames. Moreover, social trust varied not only between individuals, but also between schools. While the greatest variation happened *within* each building, there was also a significant difference between schools in their level of trust $F(6, 215) = 15.79$, $p < .001$. This held true for both teacher-to-teacher trust and principal-to-teacher trust. School differences accounted for 28 percent of the variance for teacher-to-teacher trust, and 18 percent of the variance for principal-to-teacher trust. Table 4 shows the mean scores, standard deviations, and level of significant differences using the Least-Significant Difference Test among schools' teacher-to teacher-trust.

Table 4. Means, Standard Deviations, and One-Way ANOVA Analysis of Teacher to Teacher Trust by the Seven Schools

					One Way ANOVA						
Trust Rank	*Schools*	*N*	*Mean*	*Std. Dev.*	*7*	*6*	*5*	*4*	*3*	*2*	*1*
1	Mountain View	28	3.40	.37	*	*	*	*			
2	Hamilton	7	3.28	.23	*	*					
3	Willow	48	3.25	.36	*	*	*	*			
4	Anderson	53	3.04	.35	*	*					
5	Arroyo	19	2.88	.44	*						
6	Carver	45	2.83	.41	*						
7	Metro	22	2.58	.38							
	ALL	222	3.04	.45							

Notes: Four-point scale: strongly disagree, disagree, agree, strongly agree.
* indicates significant differences of $p<.05$ which are shown in the box on the right.

While schools varied in their levels of social trust, did it make a difference to implementation? As shown in Table 5, social trust had a small but significant correlation with teacher service-learning use and a much larger correlation with the institutionalization of service-learning. In both cases, faculty-to-faculty trust played a more important role that faculty-to-principal trust. The next section examines in which ways social trust affected the implementation process in each of the six change frames.

Table 5. Correlations of Faculty-to-Faculty Trust and Faculty-to-Principal Trust with Teacher Service-Learning Use and Service-Learning Institutionalization

	Faculty-to-Faculty Trust	*Faculty-to-Principal Trust*
Teacher Service-Learning Use	$r = .16^{*}$	$r = .07$
Service-Learning Institutionalization	$r = .45^{***}$	$r = .21^{**}$

$^{*}p < .05$; $^{**}p < .01$; $^{***}p < .001$

Purpose Frame

The seven schools varied significantly in their ability to agree on a "clear, central purpose about why we use service-learning" $F(6, 197) = 7.97$, $p < .001$. What role did trust play? Mountain View Elementary School had the highest level of trust of the seven research sites and was able to achieve the strongest sense of shared purpose. One hundred percent of the teachers agreed with the statements: "Service-learning fits my beliefs about how stu-

dents learn" and "Service-learning fits some of our students most important needs." Those who led service-learning at the sites were appreciated for their work as good, caring, and contributing members of the school. When asked whether their service-learning leaders were "motivated primarily for the good of children," 100 percent of the teachers agreed.

In contrast, Carver K-8 School, which was sixth (out of seven schools) in levels of trust, had a very different experience. The site had strong islands of service-learning practice among its teachers and received frequent invitations to present at conferences. Despite these successes, the school was burdened by a sense of underlying mistrust in the purpose frame. Forty-four per cent of the Carver staff (compared to 10 percent at Mountain View) agreed with the comment: "A small group of people at this school control service-learning and use it for their own purposes." Thirty-three per cent of the teachers (compared to none at Mountain View) *disagreed* with the statement: "Those who provide leadership around service-learning are motivated primarily for the good of children."

The teachers who headed service-learning at Carver had the double burden of sponsoring an award-winning but time- and labor-intensive service project, and enduring the lack of trust and support from their colleagues. As one of them shared:

> I have poured ... I am going to get emotional. (cries) I have poured hours and hours into this school. Just days. But I care about it. And I want it to be successful. I want it to be good for the kids and I want to care about each other. And it really hurts me. Some days I just dread coming because I know somebody's angry about something. Jill, not the teacher's real name, hasn't spoken to me in a year. And it hurts me so much that I can't get that wound to heal. And I am tired of it! (1996)

The issue of trust in the purpose frame was visible to varying degrees in six of the seven schools. Only Hamilton, which consisted of a very small middle school staff within a larger K-8 school, had no teachers who thought that those leading service-learning were using it for their own purposes rather than for a shared purpose (see Table 6).

Table 6. Percentage of school staffs that agree or strongly agree with the statement: "A small group of people at this school control service-learning and use it for their own purposes."

	Hamilton	*Mtn. View*	*Metro*	*Arroyo*	*Willow*	*Carver*	*Anderson*	*All*
% agree	0	10	25	28	28	44	51	32
n	8	29	24	18	40	45	41	205

What is learned from this example is that trust can change the core frame question by one word to: *What is the **real** purpose of implementing service-learning?* While school reformers emphasize establishing a clear and compelling vision for change, teachers may or may not believe that the stated purpose is the real purpose. The teachers at Mountain View believed that the real purpose was to benefit students, while the teachers at Carver were much more divided. This is not to say that trust was the only reason for this difference. Carver had the additional problem that the school's premier service-learning projects were in content areas different from their focus as a magnet school. Still, survey results demonstrated that Carver's implementation struggles included two core trust facets: honesty (was the stated purpose genuine?) and benevolence (was the purpose well intentioned?).

Structural Frame

Trust issues developed in the structural frame in three areas where the needs of service-learning projects collided with traditional school organizational patterns: (1) teachers leaving school to perform service; (2) students missing other classes; and (3) teachers being kept informed about what was happening with service-learning. The first trust issue arose when teachers took their students into the community to perform service. The principal at Carver was so supportive of service-learning that he made it possible for service-learning teachers to take students out of the building on short notice. But while service-learning teachers were engaged in exciting, hands-on learning in the community, other middle school teachers had to cover the extra students left behind or mentor a substitute teacher.

In the focus group of those not using service-learning, Carver teachers raised the trust issue of reliability (i.e., whether they could count on the service-learning teachers) and the trust issue of benevolence (i.e., whether the service-learning teachers were thinking about the welfare of the other staff when they left the building). Those teachers left behind complained "because they (the service-learning teachers) are always gone. If they really cared about students, they would be here." Moreover, those who held down the fort and who made it possible for others to leave felt that their contributions were frequently overlooked. What existed may have partly been a difference in philosophy about teaching and learning (i.e., about where learning should take place), but this difference generated mistrust and ill will for service-learning implementation.

In cases where schools found better solutions to this structural issue, trust issues never appeared. In one of the most successful adaptations, Willow Middle School hired a parent as an AmeriCorps member to coordinate community partnerships and drive small groups of students to service work such

as Meals-on-Wheels. Although regular classroom teachers had to miss out on the shared, first-hand experience with students, they were able to cover their own classes and other responsibilities. While not a perfect solution, it responds to the needs of both service-learning and school organization.

The second structural issue that caused tension was students missing classes. Student absences occur in many activities, including athletics, talented and gifted programs, and traditional field trips, and have long caused dissention among staff. Missing class is a universal school problem that service-learning can compound. The impact of students missing class to perform service on other teachers' sense of efficacy (and social trust) is clear from this Carver teacher:

> As an educator you can't just stop teaching because I have two that are pulled every day. So what I have to do is when they come back in, they are at different ends of the learning spectrum. The one ... unfortunately I have to just sit with her and catch her up and that's time I could be using walking around and doing something else...

Missing class brought up the trust issues of whether service-learning teachers cared about other teachers' classes (benevolence) and could be counted on (reliability). Even those championing service-learning recognized the issue: "It is a problem. And I don't know how we can fix it..."

The third structural issue concerned school wide communication. Poor communication sometimes soured the climate for service-learning. A focus group of nonusers at Carver complained repeatedly that they were unaware of important service-learning activities in their own school. One example (of many) was that while service-learning teachers and students were presenting at state and nation conferences for a couple of years, few in their own school knew the full story of what was happening. When they finally did perform for their school, one of the non-service-learning using teachers commented:

> They should have done it a long time ago. They should have presented it the first week of school and they would have had so many people behind them. They would have had so many people saying, 'Hey. You know you all need to (participate).' Start talking about it to other people. (1997)

Several staff members felt neglected and mistrusted because they were not informed. This is an issue of trust as openness (i.e., "the extent to which relevant information is not withheld"). Organizational information represents not only data, but also power and security.

In observing the seven schools, it was apparent that the traditional structure of schools interfered with teachers getting to know each other, and therefore, the development of social trust, as it is more difficult to trust

people with whom you have little interaction. Teachers at Willow and elsewhere commonly talked about the added supervision duties, classroom demands, and split lunches and recesses that made it difficult to meet. At Mountain View, the sixth grade teachers solved this dilemma but only by spending every Friday night at the school, for many years, planning and duplicating next week's lesson plans (i.e., norms of collaboration were more important than the lack of time). In contrast, Carver tried one year to give teachers more time to meet (i.e., an extra planning period), but the teachers tended to use it for their own pressing work demands rather than collaborative ventures (i.e., there may have not been sufficient social bonds to support joint work).

Learning Frame

There is currently an increased emphasis on the important role of organizational learning in school change (i.e., including teachers learning from each other) (Senge et al., 2000). If learning is social and organizational rather than individual and isolated, social trust may be particularly important for teachers' to jointly master service-learning. This idea is reinforced by the finding in this study that the most common way that teachers learned about service-learning was through informal conversations with other staff members.[2]

In the starkest contrast to these images of collegial learning, service-learning at two of the research sites dramatically became an "underground activity." Rather than sharing their practice, teachers literally hid the fact from others that they were doing service-learning. While Mountain View had the highest level of social trust, the school experienced a difficult period before the start of this study. The service-learning leadership group discovered that their own service-learning coordinator was deeply critical of the quality of their practice. The coordinator felt that it lacked both strong integration into the curriculum and student leadership. As one teacher described her reaction to the criticism:

> What happened was that teachers still believed in service and what they had been doing in their classrooms, but became very unsure about what was "pedagogically correct" to do. What happened was that they continued to do service-learning behind closed doors, but did not talk about it in the lunch room or at faculty meetings. New teachers at that time said that they had no idea how much service-learning had been going on in the building. I must have come in just about the time everybody slammed their door shut because I did not think anybody was doing any service around here. (1997).

These teachers felt vulnerable to criticism about their practice (the trust issue of competence); therefore, the school experienced a breakdown of honesty and openness.

The other school where service-learning became an underground pedagogy was Metro. Teachers there were required to submit their service ideas to an advisory committee designed to support them. Several teachers interviewed at that site reported that they began to perceive presenting to the advisory committee as more of an inquisition (i.e., having to justify and revise their ideas). Their solution was to continue to do service-learning, but not to call it that or to share with others what they were doing.

A second example of the effect of trust on the learning frame involved teachers' willingness to share with others. When the 198 classroom teachers in *all* of the seven schools were asked whether "colleagues are generally protective of instructional materials or activities they've developed," 50 percent agreed and 50 percent disagreed. At Metro Elementary School, the site with the lowest levels of faculty trust, the percentage that agreed jumped to 70 percent. When teachers don't think their peers are willing to share their good ideas, learning suffers. While there are many structural reasons in schools why teachers might not share their materials with others, the perception that they are not willing represents a breakdown in trust (i.e., that others care about your well-being). There were instances, like at Willow Middle School, where two grade level teams across the hall did not know what the other was doing for service-learning.

The third example of trust's influence in the learning frame came from teachers attending professional conferences. Common sense says that teachers who are sent to learn new ideas from workshops should bring those back to share at school. But again, trust intervened. Teacher sharing depended on whether they taught in a high or low trust school. Three of the research sites sent teachers to the National Service-Learning Conference in Orlando during this research project. At Mountain View, the teachers returned to share and discuss what could be used in their building. At Metro and Carver, however, the teachers who attended did not even attempt to share because they knew their staff would not want to hear. The point was not that they wouldn't be interested in good ideas, but that they might not be interested in good ideas from two colleagues who were able to spend the week in Orlando.

Two teachers at Metro shared that they "knew" their teachers had skipped the whole conference and had spent a school-funded vacation in Disney World. Whether this was true or not, it underlined the mistrust and suspicion that existed. Carver had a tear-stained faculty meeting about how the Orlando trip was being funded before the conference, as reported by one of their teachers who was not directly involved:

> I saw ... hurt feelings about `This group is doing this and this group isn't doing this.' [name] (a teacher doing service-learning) had to stand up and say, "Look! No one," and she was almost in tears, "No one is paying. We are not taking money out of this school to pay for this trip. We have got $100 from [name]. We got $100 from this company and we got money from others.' She had to stand up there and justify to the whole staff because people were talking about "Oh they are taking this money." ... The people are saying things behind people's back ... (1997).

It would have been very difficult to come back from this conference and freely share with others.

A fourth place where social trust matters to teacher learning concerns the risks involved when teachers leave the classroom. Service-learning teachers plunge into real-life community settings where they will sometimes feel as panicky as their students. Trust is critical because their competence is challenged by trying something very new. For instance, one fifth grade teacher at Mountain View had her fifth/sixth grade low reading group tutor preschool children on the other side of the campus. She would undoubtedly have felt comfortable in a traditional teaching mode (e.g., reading a book and having discussions with her class *about* preschool students). But her instructional instincts told her that a cross-age approach would be a much more powerful literacy experience. The problem was that this teacher had never had children of her own and had never spent time in a preschool. She described the experience this way:

> Nerve-wracking! Oh I was scared to death of little kids. I did not know anything about little kids. I was scared. Preschoolers! What do you do with someone that is three and sure enough there was a crier! Every time we walked into the room he would cry. But it did not take long ... I think if I had to, I could probably teach preschool. If I had good mentors like [name] and [name] and the people in that program, because they are wonderful people. So they just opened up a different part of education for me. I don't want to work with those little kids, but I could, and if I had to I would have a good time doing it. (1999).

What is striking is both that she summoned the courage to try something "nerve-wracking" in her teaching and that she had colleagues who guided her to new self and professional knowledge. The culture at her school made it easier to engage in "risky learning."

One of the tenets of organizational learning is the ongoing ability of staff to actively question and inquire about their practice. When asked if they would be comfortable disagreeing with service-learning, nearly half of the teachers said no (see Table 7). These results illustrate how central trust is to the learning frame. Interestingly, the school with the highest faculty-to-faculty trust—Mountain View—had the lowest percentage of teachers

who would feel comfortable disagreeing with service-learning. This may have been an issue of faculty-to-principal trust, as the school's principal was a huge service-learning supporter.

Table 7. Percentages of staff members who agree or strongly agreed with the statement "If I disagreed with service-learning, it would be easy to speak up and have my ideas considered."

	Hamilton	*Mtn. View*	*Metro*	*Arroyo*	*Willow*	*Carver*	*Anderson*	*All*
% agree	100	31	45	72	59	46	49	51
n	8	29	22	18	41	46	41	205

Leadership Frame

While many schools possess a scattering of teachers who independently practice service-learning, school wide implementation requires credible and effective leadership. When I visited Anderson Junior High in the second year of the project, there had been 26 formal grievances against the school administration. In an attempt to find a solution, the principal had placed an anonymous suggestion box in the school. But when a particularly sharp note was received, he called in a teacher who he imagined (wrongly) to have written it. Although this school found legitimate ways to spend the service-learning grant money, it disappeared without any substantive curricular effect. Very little service-learning could grow when the principal and staff were at war, and everyone was watching his/her own back. Anderson had the lowest levels of both teacher service-learning use and institutionalization.

A second challenge in the leadership frame was inclusiveness. In the school wide implementation process, how the grant began had a strong influence on what happened afterwards. A rift developed in many cases between users and nonusers at the "birth" of the grant. Typically, an administrator and/or small group of teachers had written and applied to be part of the project. It is not surprising then that 72 percent of the teachers in the seven sites said that the whole faculty was not involved in the decision to apply for the service-learning grants. Given their lack of meaningful involvement, it is not hard to understand that 47 percent of staff said they did not have a sense of personal ownership for the success of service-learning.

Teachers were therefore divided not only by whether they used service-learning, but also in their experiences with the implementation process. As shown in the purpose frame, 51 percent and 44 percent of the staff at Anderson and Carver agreed that "...a small group at this school controls service-learning and uses it for their own purposes," compared to 10 per-

cent at Mountain View. Leadership that was not shared seemed to breed an "us and them" mentality that lowered trust and hindered implementation.

Political Frame

What was the role of social trust in the political frame? Most important was the distribution of "goods" (i.e., influence, status, money, and professional opportunities) that accompanied the service-learning grant. Teachers in some of the schools, whether out of jealousy or inequity, were often not at peace with the politics of grant distribution. When asked whether "all resources that the school has received from service-learning grants been made available equitably or fairly for all teachers," schools varied in their agreement from 82 percent (Mountain View) to 41 percent (Anderson). When asked whether resources had been put to good use for students, the school faculties' agreement varied even more widely from 96 percent (Mountain View) to 30 percent (Anderson).

In thinking *why* service-learning teachers were not trusted in the low-trust schools, political issues might be a prime suspect. One of the repeated themes was that staff thought that service-learning leaders were benefitting personally more than they were benefitting students. Grants involve the distribution not only of money, but time away from school, curriculum writing money in the summer, speaking appearances, and professional and public recognition. A common theme from focus groups in almost all of the schools was "who went to conferences." Service-learning leaders in one school who traveled a great deal were nicknamed "The Chosen Ones" by some of their colleagues. As one focus group member confessed:

> Well, I think to be honest, and I am a very honest person, that some of us felt it was just a certain group that got to do the things. I am speaking candidly—you don't have to have a degree to realize this. That made some people feel like they are unneeded even though they are a good teacher ... I think that's pretty much what everybody would say in this room. (1996).

Cultural Frame

It was apparent that service-learning implementation had the potential to foster stronger social bonds within the school and community. Seventy-six percent of the teachers in the seven schools said that service-learning had "some" or "a great deal" of impact on their level of collaboration with other staff. Sixty-two percent said that service-learning had "some" or "a great deal" of impact on their level of collaboration with the community.

In many instances, however, implementation also fostered what Hargreaves (1994) calls a "balkanized culture"—one divided into different factions. Although schools are often already balkanized for a variety of reasons (e.g., by departments, faculty attitudes, length of service at the school), service-learning implementation brought opportunities to create further divisions. To the degree that a select group of staff enjoyed the new benefits to the exclusion of others, there developed not only different factions, but in-groups and out-groups. When asked whether "the implementation of service-learning has created divisions and conflict among the staff," schools varied widely on their answer (see Table 8).

Table 8. Percentage of each school staff that agreed or strongly agreed with the statement "The implementation of service-learning has created divisions and conflict among our staff."

	Anderson	*Carver*	*Metro*	*Willow*	*Hamilton*	*Arroyo*	*Mtn. View*	*All*
% agree	53	50	41	26	25	11	3	34
n	40	46	22	42	8	18	29	205

These wide differences illustrate that high and low-trust schools had different experiences with implementation. At Mountain View, teachers often referred to each other as family. They sought out and valued spending time together personally and professionally. As Michelle Gilliard of the Council for the Advancement of Private Higher Education writes: "Over time, institutions can take on the characteristics of being trustworthy, as trust developed with individuals is assigned to the association itself" (quoted in Cufaude, 1999, p. 26). Unfortunately, the opposite is also true culturally—institutions can be assigned the characteristic of being untrustworthy.

DISCUSSION

The NYLC Generator School Network consisted of 40 K-8 sites that endeavored to promote school-wide adoption of service-learning. This study followed the attempts of seven of these schools. At the nexus of all of the implementation processes was brainstorming, persuasion, dialogue, negotiation, problem solving, and decision-making—in other words, actions that require human interaction and collaboration. These processes highlight the deeply social character of school improvement. If change in general, and service-learning in particular, is inherently relationship-rich, then what is the role that social trust plays in the layers and types of interactions that must occur for school improvement to happen? This paper used two analytical tools to answer that question. The five faces of social trust pro-

vided a screen for *what to look for* and change frames provided a screen to locate *where to look*. The remaining pages will summarize the three beginning research questions and then make some concluding observations about social trust and service-learning implementation.

1. *Social trust issues were present throughout all dimensions of the service-learning implementation process.*

The descriptive goal of the first research question was to locate *where* issues of social trust appeared in the service-learning implementation process. This study looked across the spectrum of six different frames of the implementation process and found that the five faces appeared and reappeared in the lives of teachers and the change process.

The types of vulnerabilities (or faces of trust) varied frame by frame. Teachers felt vulnerable to whether the innovator's real purpose was honest and benevolent. People's roles and responsibilities in the structural frame brought up issues of reliability (Will teachers leaving their classroom for service-learning be able to cover their own students?). In the political frame, grants brought up issues of openness and honesty about whether money, recognition, and other perks were being distributed fairly. The demands of mastering a new skill in the learning frame challenged peoples perceived competence. All of these examples reinforce the idea that issues of social trust and vulnerability are pandemic across the change process in service-learning implementation.

2. *Trust issues were not only present in all six frames, but they also played a role in schools' ability to implement service-learning.*

While educational leaders must attend to the great many variables that influence successful service-learning implementation, the chapter underlines the importance of being cognizant and skillful in promoting and maintaining levels of trust. In high-trust schools, purposes were seen as authentic, service-learning leaders were appreciated and survived, resources were more peacefully distributed, and teachers more often bonded together to jointly improve and share practice. In schools with lower trust levels, teachers were more likely to question the real purpose of their colleagues, to spurn personal involvement in the new practice, and to take a negative attitude toward implementation.

The influence of social trust on service-learning implementation reinforces the idea that focusing exclusively on the moral or technical sides of change is not likely to be effective if a school, district, or state is not able to simultaneously surmount social vulnerabilities. This is especially true for service-learning institutionalization, which was more highly correlated with

social trust than was teacher use. Teachers might close their doors in a non-trusting environment and perform service-learning with their students. But in order to spread service-learning laterally throughout the school (i.e., to make it institutionalized in the whole school), it is impossible to bypass the relationships and perceptions that exist among staff. Thus, social trust may be a key ingredient to a fundamental issue facing service-learning implementation.

3. *Service-learning provoked its own, innovation-specific set of social trust issues and faculty vulnerability.*

In the existing literature, social trust is talked about as a generic resource and/or challenge for serious school reform efforts. This chapter looked at a new question: *Does a particular school reform effort like service-learning raise its own, innovation-specific set of social trust issues that affect implementation?*

Service-learning did raise unique issues and gave a new meaning to some standard issues. For instance, in the purpose frame, service-learning claims the high moral ground (i.e., social justice, service, and caring for others). This potentially fuels the moral development and thinking of students, but it also makes other nonparticipating adult staff members question whether service-learning instructors were as virtuous as their program appeared (i.e., because some received celebrity/newspaper publicity for their work).

The lesson is that we must learn not only to understand social trust issues inherent to any implementation, but also to fathom the terrain and subsequent social trust issues introduced by particular innovations. Service-learning, because it has so many unique features (e.g., connecting to the community, publicly visible projects, challenging school structures, and high-minded ideals) may be an unfair example, but it is worth considering. Surely, the innovation-specific characteristics of site-based councils, charter schools, state standards, and teacher tests all make administrators and faculty vulnerable in their own unique ways. It is an area worthy of further exploration. If social trust is considered an important resource for school improvement, then change agents will need to brainstorm particular ways in which various innovations increase staff vulnerability, and then how that can best be addressed.

Closing Discussion

Schools, to varying degrees, are civil or uncivil societies. School improvement work is carried out between people who have different amounts of social credit or social capital with one another (Putnam, 2000). This is par-

ticularly important to service-learning. In many ways the "essence" of the pedagogy is about redefining relationships—between teacher and student, between teachers, between students, between students and their own learning, and between the school and the community. Those redefinitions are inherent when educators try to change the traditional grammar of learning and organizations that have dominated schools for much of the last century.

As schools implement new pedagogies, they will need to find ways to foster their own social capital. This will not be easy. Teachers in this study did experience a breakdown of openness, honesty, benevolence, competence, and reliability during implementation. Distrust remains, in many schools, a rational and wise response to what is happening. This is a major problem because distrust can become a self-perpetuating cycle that is difficult to break. As Tschannen-Moran and Hoy (in press) point out: "When interacting with a distrusted person, even normally benign actions are regarded with suspicion. The behavior of the distrusted person is systematically interpreted in such a way that distrust is confirmed" (p. 6). The paradox becomes that the very communication necessary to overcome distrust is made impossible by it.

Many of the issues described here will not surprise anyone working in or with schools. People can be highly self-conscious when they learn new skills. Micropolitics is always a hot item because it involves the distribution of new resources in school systems that are typically overburdened and underresourced. We judge leaders by what we perceive their intentions are as well as their actions. What is perhaps most revealing, in terms of educational leadership and school reform, is that while many of the trust issues that arose were interpreted and experienced as personal (i.e., "what you did to me"), in reality they typically had systemic origins in the way that we have organized schools. Teachers gaining public recognition for service-learning may elicit jealousy or suspicion because teachers as a group generally receive too little recognition. Teachers and students missing classes are complicated because educational systems have been constructed for efficiency, not flexibility. Political mistrust can arise not from a misuse of funds, but from poor communication structures. Teachers' endemic uncertainty, which makes them vulnerable to others' judgements, is increased because they typically teach in isolation. Trust is therefore often more of a systemic than a personal issue. The answer may reside not in better individual character, but in enlightened leadership and improved working conditions.

Leithwood and Louis's (1998) claim that if teachers are going to participate in "risky learning," they will require "communities of caring and trust." Student service-learning projects might make a modest but important contribution to building social trust within the school. When I coordinated a service-learning program in a California school district, volunteer students led discussions for one class period about how to improve teacher-

to-student and student-to-student relationships within the school. Students then sifted through dozens of ideas and implemented the very best to improve "school atmosphere." This included regular student/faculty lunch dialogues.

If schools are going to have more social trust and social capital, they will need to consider a broad range of issues. Social trust is one variable that is suspended among and linked to many others within a school's culture. Increasing attention is being paid to the concept of professional learning communities both in the United States and other countries (Toole & Louis, in press) that includes social trust as a key element. Bryk, Camburn, and Louis (1996) found that, of all the facilitating factors for professional learning community, social trust was "by far" the strongest. Trust and respect acted as a foundation on which collaboration, reflective dialogue, and deprivatization of practice could occur.

What the conceptualization of social trust does accomplish is to bring together a set of implementation issues into a common core—faculty vulnerability. The five faces are different manifestations of the risks involved for staff collaborative work and school improvement. In unifying what might be perceived as discrete issues, the concept of social trust more powerfully focuses reform leaders on the need to pay significant attention to people and the social conditions of their work lives. What is ironic, for service-learning, is that it is seen as a vehicle to promote civil society. What this chapter tries to illustrate is that service-learning and civil society are involved in a cycle of circular causality. Each needs the other. Service-learning not only can help produce a civil society. Its implementation relies on its existence to happen.

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NOTES

1. A non-load bearing teacher is a teacher who does not have his/her own classroom. This might include a special education or Chapter 1 teacher, for instance, and administrators/counselors.

2. When asked to check each way that they learned about service-learning, staff members responded in the following manner: informal conversations with other educators (84 percent); read articles and books (57 percent); observed other teachers using service-learning (54 percent); attended a local, state, or national conference (34 percent); attended a service-learning workshop (33 percent); received coaching or feedback (22 percent); participated in a staff study group (19 percent); and attended the NYLC Summer Teacher Institute (6 percent).

REFERENCES

Baier, A. (1985). Trust and antitrust. *Ethics, 96*, 231–60.

Barth, R.S. (1990). *Improving schools from within.* San Francisco: Jossey-Bass.

Barth, R.S. (2001). *Learning by heart.* San Francisco: Jossey-Bass.

Billig, S.H. (2000, May). Research on K-12 school-based service-learning: The evidence builds. *Phi Delta Kappan, 81*(9), 658–664.

Blase, J. (Ed.). (1991). *The politics of life in schools: Power, conflict, and cooperation.* Newbury Park, CA: Sage.

Bolman, L.G., & Deal, T.E. (1997). *Reframing organizations: Artistry, choice and leadership* (2nd ed.). San Francisco: Jossey-Bass.

Byrk, A.S., & Schneider, B. (1996, June). *Social trust: A moral resource for school improvement.* Chicago: Authors.

Carlson, R.V. (1996). *Reframing and reform: Perspectives on organization, leadership, and school change.* White Plains, NY: Longman Publishers.

Cufaude, J. (1999, July). Creating organizational trust. *Association Management,* 26–34.

de Tocqueville, A. (1961). *Democracy in America.* New York: Schocken.

Education Commission of the States. (2000, July). *Every student a citizen: Creating the democratic self.* Denver, CO: Author.

Grantmaker Forum on Community and National Service. (1998, December). *Civil society and educational renewal.* Berkeley, CA: Author.

Hall, G., & Hord, S. (1987). Change in schools: Facilitating the process. In D. Duke (Ed.), *State University of New York Press Series* (pp. 1–393). Albany: SUNY Press.

Hargreaves, A. (1992). Cultures of teaching: A focus for change. In A. Hargreaves & M. Fullan (Eds.), *Understanding teacher development* (pp. 216–240). New York: Teachers College Press.

Hargreaves, A. (1994). *Changing teachers, changing times: Teachers' work and culture in the postmodern age.* New York: Teachers College, Columbia University.

Hargreaves, A., & Fullan, M. (1998). *What's worth fighting for out there?* New York: Teachers College Press.

Hargreaves, A., Shaw, P., & Fink, D. (1997). *Research questions for the seven frames.* Toronto: Authors.

Hoy, W.K., & Tschannen-Moran, M. (1998). Trust in schools: A conceptual and empirical analysis. *Journal of Educational Administration, 36*(4), 234–352.

Hoy, W.K., & Tschannen-Moran, M. (1999). Five faces of trust: An empirical confirmation in urban elementary schools. *Journal of School Leadership, 9*, 184–208.

Huberman, M. (1993). The model of the independent artisan in teachers' professional relations. In J.W. Little & M.W. McLaughlin (Eds.), *Teachers' work: Individuals, colleagues and contexts* (pp. 11–50). New York: Teachers College, Columbia University.

Leighton, M.S. (1996, July). *The role of leadership in sustaining school reform: Voices from the field.* Washington, DC: U.S. Department of Education.

Lemann, N. (1996, April). Kicking in Groups. *Atlantic Monthly, 277*(4), 22–26.

Little, J.W. (1990, summer). The persistence of privacy: Autonomy and initiative in teachers' professional relations. *Teachers College Record, 91*(4), 509–536.

Lortie, D.C. (1975). *Schoolteacher: A sociological study.* Chicago: The University of Chicago Press.

Louis, K.S. (1992). Restructuring and the problem of teachers' work. In A. Lieberman (Ed.), *The changing contexts of teaching: 91st yearbook* (pp. 138–156). Chicago: National Society for the Study of Education.

Louis, K.S., Kruse, S.D., & Associates (1995). *Professionalism and community: Perspectives on reforming urban schools.* Thousand Oaks, CA: Corwin Press, Inc.

Louis, K.S., Toole, J., & Hargreaves, A. (1999). Rethinking school improvement. In J. Murphy & K.S. Louis (Eds.), *Handbook of research on educational administration* (2nd ed.). San Francisco: Jossey-Bass.

McBride, M., & Skau, K.G. (1995). Trust, empowerment, and reflection: Essentials of supervision. *Journal of Curriculum and Supervision, 10*(3), 262–277.

McLaughlin, M.W., & Talbert, J.E. (1993, March). *Contexts that matter for teaching and learning: Strategic opportunities for meeting the nation's education goals.* Stanford, CA: Center for Research on the Context of Secondary School Teaching, Stanford, University.

Morgan, G. (1997). *Images of organization* (2nd ed.). Thousand Oaks, CA: Sage.

Putnam, R.D. (1993). *Making democracy work: Civic traditions in modern Italy.* Princeton, NJ: Princeton University Press.

Putnam, R.D. (1995). Bowling alone: America's declining social capital. *Journal of Democracy, 6*(1), 65–78.

Putnam, R.D. (2000). *Bowling alone: The collapse and revival of American community.* New York: Simon & Schuster.

Rosenholtz, S.J. (1991). *Teachers' workplace: The social organization of schools.* New York: Teachers College Press, Columbia University.

Senge, P., Cambron-McCabe, N., Lucas, T., Smith, B.,Dutton, J., & Kleiner, A. (2000). *Schools that learn: A fifth discipline fieldbook for educators, parents, and everyone who cares about education.* New York: Doubleday.

Sitkin, S.B., & Stickel, D. (1996). The road to hell: The dynamics of trust in an era of quality. In R. Kramer & T. Tyler (Eds), *Trust in organizations: Frontiers of theory and research* (pp. 195–215). Thousand Oaks, CA: Sage.

Toole, J.C. (1998). *The use of change frames in the study of school improvement.* St. Paul, MN: Author.

Toole, J.C. (2000). *Implementing service-learning in K-8 schools: Challenging the learning grammar and the organizational grammar of "real school."* Paper presented at the AERA 2000 National Convention in New Orleans.

Toole, J.C. (2001). *Mental models, professional learning community, and the deep structure of school improvement: Case studies of service-learning.* Unpublished doctoral dissertation, University of Minnesota.

Toole, J.C., & Louis, K.S. (in press). The role of professional learning communities in international education. In K. Leithwood & P. Hallinger (Eds.) *Second international handbook of educational leadership and administration.* Amsterdam: Kluwer Academic Publishers.

Tschannen-Moran, M., & Hoy, W.K. (in press). A multidisciplinary analysis of the nature, meaning, and measurement of trust. *Review of Educational Research.*

Tyack, D., & Cuban, L. (1995). *Tinkering toward utopia: A century of public school reform.* Cambridge, MA: Harvard University Press.

United States Department of Education. (1999). *National student service-learning and community service survey.* Washington, DC: Author.

CHAPTER 4

AN APPLICATION OF DEVELOPMENTAL-CONTEXTUALISM TO SERVICE-LEARNING

Elizabeth Hill Warter and Jennifer M. Grossman

INTRODUCTION

Few people dispute the notion that multiple contextual and individual influences combine to affect human growth and development. Increasingly, however, research and theory extend beyond the naming of singular factors and focus on the complexity of influences on development and the process by which these influences interact (Bronfenbrenner, 1979; Lerner, 1986). Termed a developmental-contextual approach (Lerner, 1986, 1991), this theoretical view of development provides a framework with which to understand the process of change on multiple levels.

The nature of developmental-contextualism is congruent with the complexity and range of service-learning constructs and provides a theoretical grounding for discussion of key topics in service-learning. Developmental-contextualism can provide service-learning practitioners and researchers with a theoretical frame with which to guide the design, implementation, and evaluation of service-learning programs. This chapter will present a brief overview of developmental-contextual theory, followed by an examination of its application to selected issues within the service-learning field.

DEVELOPMENTAL-CONTEXTUALISM

Developmental-contextualism (Lerner, 1986, 1991, 1998) examines an individual's development with respect to the many influences that impact development and the process by which change occurs. While individuals are considered active participants in their own development, they are also impacted by multiple internal and environmental factors. Essential to this theory are four principle concepts: context, multiple domains, lifespan, and risk and resiliency. This chapter will briefly describe these principles and how they influence individual and systemic change.

The concept of context refers to the multiple levels of influence in which an individual is embedded (Bronfenbrenner, 1979; Lerner, 1986). These levels are external to an individual and include immediate, tangible influences (e.g., family, peers, school, work, faith organization, community) and more global and abstract influences (e.g., society and culture). An individual interacts with these various contexts in a bidirectional way; individuals are shaped by their dynamic interactions with these contexts and also shape the contexts with which they interact (Lerner, 1991). Thus, individuals are understood as both active agents of change and recipients of influence, instead of being solely one or the other.

Multiple domains refer to influences internal to an individual that interact to affect that individual's personal development and experience. These multiple domains include several content areas, such as biological (i.e., temperament, genes, physical health, etc.), emotional (i.e., self-esteem, self-worth, etc.), and cognitive (i.e., intellectual functioning, problem-solving ability, etc.) (Lerner, 1986, 1991). This theory, while recognizing the importance of these domains individually, places more emphasis on their interaction as a whole. For example, research has suggested that youth mental health and learning may be connected (Adelman & Taylor, 2000); thus, a child's cognitive ability may not be the only factor hindering their academic achievement. Other factors, such as poor nutrition, may also influence this individual's experience and development; thus change that occurs within one domain has the potential not only to affect other domains, but also the individual as a whole.

A developmental-contextual approach also advocates utilizing a lifespan perspective in conceptualizing development and change. Unlike some theories of development, developmental-contextualism postulates that change may occur throughout the lifespan (Lerner, 1998). Development is not static, suggesting that interventions providing long-term services have opportunities to effect change across all age groups. This long-term approach to development also recognizes the unique impact of historical context (Lerner, 1998). On a global level, each generation is impacted by important events of its time; while on a local level, individuals are influ-

enced by the history of their surrounding communities. A lifespan perspective advocates for the utilization of multiyear programs across age groups and recognizes historical contexts of involved individuals.

With a focus on individuals as active agents of change and recipients of influence across their lifespan, a developmental-contextual framework places a dual emphasis on individuals' risk and resilience. "Risks" are conceptualized as factors that reduce an individual's chances for optimal development and have been the focus of pioneering research in the areas of intervention and prevention (Garmezy, 1974; Rutter, 1979; Werner & Smith, 1982). While identifying and reducing risks is important, a focus on strengths also emerged as critical to the development of effective programs (Garmezy, 1996; Masten, 1994; Masten & Coatsworth, 1998). Resilience, or how individuals utilize their strengths to achieve successful developmental outcomes despite adversity, is both a hopeful and empowering concept. The dual emphasis on risk and resilience enables programs to recognize and reduce risks affecting individuals and systems, while promoting their strengths and resiliency to effect positive change.

SERVICE-LEARNING APPLICATIONS

The following sections present a selection of topics discussed in the service-learning literature including individual and systemic characteristics, service relationships, levels of involvement, design considerations, and service outcomes. These topics do not represent a comprehensive list of service-learning issues, but serve as an initial exploration of the practical applications of this theory to service-learning. Although we recognize that developmental theory has been previously applied to the design and evaluation of service-learning programs (Yates &Youniss, 1996), we believe that the expansive frame of developmental-contextualism can further enrich service-learning efforts.

Individual and Systemic Characteristics

Characteristics of individuals, institutions, and communities have the potential to impact one another and the overall goals and outcomes of service-learning programs. A developmental-contextual framework can assist researchers and practitioners in understanding the processes by which this influence occurs. This conceptualization calls for researchers and practitioners to focus on the "whole" individual, including internal and contextual influences, resulting in programs that utilize individuals' strengths and experiences.

Given the impact contextual factors have upon an individual, it is important to identify and understand the individual and group characteristics of participating students when developing a service-learning program. No group of students is alike, and factors such as economic, ethnic, and personality differences help to shape the particular characteristics, strengths, and needs of a student group. Lerner (1991) recognized the importance of contextual factors in individual development and critiqued the developmental literature for its research focus on the "generic child" as representative of a white, middle class norm, which bears little resemblance to the actual diversity of current populations of study. The idiosyncrasies inherent in service-learning programs, including those impacted by student, school, administration, and community characteristics, preclude "one size fits all" designs (Furco, 1994). Successful service programs should recognize and respond to the specific characteristics of involved individuals and communities in tailoring the fit to the programs' purpose and needs.

Projects that are consistent with the interests and values of participating students are most likely to show positive student outcomes of service involvement (Astin, Vogelgesang, Ikeda, & Yee, 2000). The provision of diverse opportunities for student involvement allows students to self-select project components that are consistent with their interests and abilities. Program elements, including student autonomy and the matching of student goals and interests, have been identified as central components of successful service-learning programs (Stukas, Clary, & Snyder, 1999). This suggests that service-learning programs will be more successful if they allow students to work independently, to take responsibility for their involvement in service projects, and to determine their own goals and means of participation in service-learning (Stukas et al., 1999).

Construction of service-learning programs should take into account that differing student characteristics may suggest different optimal learning environments. Some elements of service-learning have demonstrated effectiveness across groups, such as close personal interaction with school and community adults (Brown, 2001; Vasquez, 1994); shared ownership of service-learning projects (Newmann, 1991); perceptions of trustworthiness (Schine, 1997); and reflective opportunities (Weah, Simmons, & Hall, 2000). The effectiveness of other service-learning elements may be more directly linked to specific student contexts.

One way in which service-learning programs can address the impact of individual student characteristics is to support service projects that recognize student contextual knowledge and help to connect school and community. Service-learning programs can encourage students to investigate needs within their own communities (Schine, 1997) and to recognize and utilize inherent community strengths. Programmatic support of students use of local knowledge as a problem solving tool can help to identify real

community issues while simultaneously supporting student identities (Keith, 1997).

Group differences may also impact the students' experiences of service-learning. In order to effectively adapt service-learning programs to a specific group, it is important to be aware of the multiple factors that shape the group as a whole, as well as its individual members. Developmental-contextual theory suggests that the ways in which we perceive ourselves and the world, as well as our interactions with the environment over time, are necessarily context-based. Individuals are integrally connected with the familial, community, and political systems that surround them. Group affiliation may influence the way an individual perceives and interacts with the world, and there are often underlying commonalities in those who share multiple contexts. Group affiliation has been addressed in service-learning literature, especially concerning contextual differences between suburban students, many of whom are white and from fairly affluent backgrounds, and urban students, often youth of color with fewer economic resources (Keith, 1997; Schine, 1997).

In order to determine the service-learning needs of different groups, one must first explore the impact that context has on students' experiences. Urban students, for example, often have fewer connections between school and community than do suburban students (Schine, 1997). These students may struggle to navigate between disparate contexts of home and school life. Further, schools may inadvertently reinforce barriers between these worlds, therefore pressuring students to choose between academic success and family and peer support (Keith, 1997). A related issue for urban youth is the common assumption that they have little to contribute to school contexts. Teacher expectations of minority and low income youth have been demonstrated to be consistently lower than those of white, middle class students (Keith). This approach to urban students makes it difficult to recognize strengths that students bring from their cultural values and experiences (Keith; Maybach, 1996). Efforts to validate students' cultural experiences and to recognize the application of these experiences to their learning may foster increased engagement and success in school. Activities that bridge school and community worlds may also serve a critical function for urban students.

An example of a service-learning program that fits with a developmental-contextual approach is described by Joan Schine (1997). Students from an urban neighborhood initiated this program as a response to a police shooting in their neighborhood. They identified a need for greater interracial understanding between primarily white police and Dominican youth. Through a service-learning project, Dominican high school students taught ponce Spanish in an effort to increase communication and reduce tensions between these groups (Schine). This program addressed a critical

issue that crossed several contexts including individual, school, community and culture. This program also included a lifespan approach by producing change across age groups and acknowledging local, historical context. Finally, this program addressed a community risk by utilizing inherent community strengths (i.e., students' Spanish language proficiency). Programs such as this provide opportunities for students to recognize and address areas of need within their own communities and to design solutions that fit with their skills and interests.

Service Relationship

The relationship between service-learning participants and recipients has received much attention in the literature (for example, Greene, 1998; Stukas et al., 1999). This includes discussion concerning reciprocal relationships and the charity versus change perception of service (e.g., Greene, 1998). These discussions primarily revolve around the extent to which service participants, service recipients, and broader systems are, and should be, related. A developmental-contextual framework can prove useful to researchers and practitioners in examining the process by which these relationships occur, as well as their impact. This section will examine the notion of reciprocity and its exploration through the service-learning component of process of reflection as well as the charity versus change debate with respect to a developmental-contextual framework.

Reciprocity and Bidirectionality

Adherence to a developmental-contextual framework necessitates a perception of relationships and change as bidirectional in nature. The notion of bidirectionality posits that if one individual influences another, the individual that produced the change is in turn influenced through a reciprocal interaction (Lerner, 1986). Thus, individuals shape, and are shaped, by the interactions they have with their environment and the relationships they have with others. This notion of bidirectionality is not focused solely on individuals; systems are also actively engaged in bidirectional relationships with other systems and individuals. Therefore, as with individuals, systems can be shaped by other systems (e.g., community policy shapes school reform) as well as the individuals within that particular system.

In the service-learning literature, the notion of reciprocity holds a very similar meaning to the developmental concept of bidirectionality. A reciprocal relationship involves service participants and recipients mutually providing and receiving a service or educational experience. As described by Greene, "the student and the individual served are not passive recipients of education and some charitable act, respectfully, but they are co-partici-

pants in an enhanced, multifaceted experience" (1998, p .411). Both service recipient and participant give and receive in a mutually beneficial experience and assume the roles of educator and educated (Greene, 1998). This dynamic interaction between participant and recipient of service implies that there is an investment in more than just an educational experience for the student participant, but also recognition of the importance of the relationship between them. Transformation and empowerment are therefore not reserved solely for the student participant, but are experienced by community recipients as well (Greene, 1998).

While reciprocity in the service-learning literature focuses mainly on individual interaction, bidirectionality in developmental-contextualism extends to other contextual levels as well including participants' interaction and understanding of broader social systems (Greene, 1998; Lerner, 1991). Thus, participants in service-learning may engage not only in a reciprocal relationship with service recipients, but also with broader systems.

One way in which this reciprocal relationship with broader contexts can be examined is through the practice of reflection. Reflection involves students thinking about the service act, its meaning, the students' future actions, and the students' relation with broader systems and issues (Close Up Foundation, 2000). The process of reflection allows students a forum in which to gain a greater understanding of social issues and their causes, as well as gain an appreciation for individual and contextual differences. The process of reflection has been shown to be important for students engaging in service, and the absence of reflection may result in negative outcomes (Search Institute, 2000).

One example of a service-learning program with a focus on reciprocal relationships and reflection is the PULSE Program at Boston College (Byrne, 1981; Keeley, 1981). The PULSE Program combines a 12-credit, year-long, undergraduate-level core course with a 10- to 12-hour per week service requirement. This experience provides students with the opportunity to combine supervised social service and advocacy field work with classroom learning, discussion, and reflection. Students are encouraged to reflect upon the self, the self in community, and the self in culture and history while discussing their experiences in a variety of community settings (e.g., emergency shelters, after-school programs, correctional facilities, etc.) (Keeley, 1981). In accordance with a developmental-contextual perspective, this program focuses not only on the nature and impact of bidirectional relationships with other individuals and systems, but also encourages reflection upon the meaning of these relationships. Service participants engage with, and learn from, multiple contexts (e.g., individual, family, school, community) while simultaneously exploring a dual perspective of community risks and strengths.

Charity vs. Change

The nature of the relationship between service participants and recipients is also at the core of the charity versus change debate. Many service-learning programs take on a charity service model, in which participating students provide compassionate service to those in need (Westheimer & Kahne, 1994). While this model provides opportunities for students to make contributions to their community, student participants' understanding of the intricate social, cultural, and historical forces that impact individuals or communities may not be addressed. These programs may inadvertently locate the problem within the individual, rather than in surrounding systems which support and maintain oppression (Maybach, 1996). This localization of the problem with the recipient of service may disempower the recipient and create further need, bolstering a community problem rather than helping to overcome it.

By incorporating a developmental-contextual framework that focuses on contextual impacts, historical influences, and risks and resiliency, a shift can be made in the perception of service from a focus on charity to that of change. The recognition and utilization of service recipients' strengths promotes their role to that of equal partners in service-learning efforts (Westheimer & Kahne, 1994). By striving to understand the multiple contextual forces affecting the community, as well as the community's inherent strengths and needs, student participants may come to recognize the complex interactions that influence risks and resiliency. They may also gain a greater connection with others who are both different and similar from themselves. A developmental-contextual framework supports students' application of their giving responses (central to the charity orientation) to a broader understanding of social systems. This perspective enables student service to recognize unique community patterns of risk and resilience and target interventions at systems as well as individuals (Ward, 1997).

Levels of Involvement

Regardless of the specific orientation, service-learning programs hold a unique position due to the bridging of individual learning areas (e.g., subject, content, interpersonal relationships) and multiple contexts. Rather than confining student learning to single-subject learning within a classroom, service-learning provides opportunities for the community to become part of the classroom. To successfully accomplish this bridging and provide optimal learning experiences, service-learning programs must negotiate the diverse needs and experiences of multiple involved individuals. This can be accomplished through empowering students and communities and collaborating with multiple stakeholders and professionals. With

a focus on reciprocal relationships, developmental-contextualism can help guide researchers and practitioners in effectively navigating these complex relationships. The following section examines the issues of student voice, stakeholder collaboration, and interprofessional collaboration as they relate to service-learning.

Student Voice

One way to support service-learning that is consistent with student interests and experiences is to incorporate student voice in program development and implementation. By integrating student voice, students gain opportunities for active input in shaping their service experiences. Student voice provides opportunities for students to share their own perspectives on service work and to share ownership in service projects, which may result in increased feelings of ownership and responsibility for their own education (Education Commission of the United States, 2000; Keith, 1997). The Close-Up Foundation (2000) identified youth empowerment in planning service projects as one of their best practices for service-learning. For students, opportunities for ownership in service-learning provide avenues for shared power in a context (school) where they often have little voice in their own education (Schine, 1997).

Stakeholder Collaboration

Just as student voices can enhance the meaning and effectiveness of service-learning programs, so can the inclusion of the voices of multiple stakeholders. Stakeholders consist of those who are invested in, and impacted by, the process and outcome of a given project. In a service-learning program, stakeholders will likely be administrators and teachers, students (providers of service) and community members (recipients of service), and potentially, community agencies, parents, etc. In general, providing opportunities for stakeholders to share in the ownership of service-learning and other interventions has been linked to positive outcomes for both youth and communities (Keith, 1997). The role of community recipients in particular has been an ongoing focus in the service-learning literature (Maybach, 1996; Stukas et al., 1999).

Collaboration with community stakeholders may serve important functions in service-learning, for communities and students as well as for school/community relationships. For communities, stakeholder collaboration plays a dual role of supporting the identification of community needs and empowering service recipients to bring their voices to the service-learning process (Keith, 1997). In order to elucidate these functions, a developmental-contextual approach entails a historical understanding of community involvement in service-learning as well as an exploration of multiple levels of service interaction, extending from individual partici-

pants to social systems. Within service-learning, there has traditionally been little opportunity for those who receive service to determine the goals and processes of service-learning projects (Weah et al., 2000). Further, service projects have been determined by institutions that often have little knowledge or understanding of community needs and culture (Maybach, 1996). Traditional service-learning programs, while providing recipients with concrete assistance, often assume a passive role for service recipients (Westheimer & Kahne, 1994). These patterns of power within service-learning echo social roles on a broader level (Maybach). Community recipients of service have often been identified historically as unable to hold power or to contribute positively to their communities or to society.

Collaboration with community recipients of service encourages mutual empowerment and may interrupt patterns of social silencing that contribute to negative community outcomes. For individual recipients of service, collaboration in service-learning projects may act as an initial step toward revisioning themselves as effective agents of change in their own lives (Maybach, 1996). Therefore, collaboration with community stakeholders counters its historic absence in the service-learning and broader social contexts. On a programmatic level, service-learning projects can also gain valuable information from community recipients of service. Collaboration with communities may help to focus interventions on areas of genuine need, and match service interventions with community values and beliefs.

For example, Hall (1991) describes a service-learning project coordinated within the Cherokee Nation by Wilma Mankiller. In this project, an intensive needs assessment within the community was used to assess the identified the needs of the involved community. After identifying the need for running water in individuals' homes as a community priority, families were asked to serve essential roles in accomplishing of this community project. This program is an example of multiple contexts (i.e., individual, family, and community) interacting to jointly effect change. This program reduced risks by meeting an essential need of the community, and utilized strengths by collaboratively engaging existing community resources. This project served to support the recipient community by meeting an identified community need, empowering participants and remaining true to community values of consensus-building and mutual support (Hall).

Consistent with a reciprocal relationship, participating students may also benefit from collaboration with community stakeholders. Collaborative models teach students to value community voices and to approach service-learning through shared power and respect for multiple perspectives (Maybach, 1996). These models also support students' understanding and engagement with systemic as well as individual service issues. Students also gain opportunities to question their own assumptions and values surrounding social roles and the distinctions between those who give and receive

service (Duffy & Bringle, 1999). Participation in community needs' assessments is one way that students can engage in collaborative, reciprocal relationships with community recipients and learn the importance of collaborative work within community contexts (Jenson, Hoagwood, & Trickett, 1999).

Finally, collaboration helps to bridge gaps between schools and communities through shared efforts to engage with community problems. School and community connections are essential to student growth and learning and to the broader health of school and community systems (Keith, 1997). In a time of national concern for divisions between schools and communities, collaboration with communities through service-learning may help to bridge these gaps (Education Commission of the United States, 2000). One way for schools to more successfully navigate community interactions is to know the local history of the communities in which they work, as well as the history of school/community interaction. Schools and surrounding communities often have extensive interactive histories, which may involve community perceptions of neglect or maltreatment by local schools. This history may influence current school/community interactions; therefore, awareness and consideration of these dynamics can help schools to more effectively engage with local communities (Keith, 1997; Ward, 1997).

The goal of collaboration with community stakeholders is not a new one for service-learning. Many service-learning programs site community factors as a goal for service projects (Billig, 2000). However, many programs retain the traditional emphasis on participating students, with less focus on the distinct needs of communities (Raskoff & Sundeen, 2000). A further hindrance to effective collaboration with communities is the absence of evaluative research on community outcomes and experiences of service-learning (Keith, 1997; Maybach, 1996). Increased community research may help to gain insight into the needs of communities and the ways in which community recipients experience service-learning efforts. This information will be critical to the development of collaborative service-learning programs that effectively target community problems and empower service recipients through shared efforts to address them.

Interprofessional Collaboration

A final collaborative area with potential to strengthen service-learning programs in interprofessional collaboration. Professions have traditionally concentrated on one specific domain so that specialization and in-depth knowledge of that domain may be obtained and utilized (Walsh, Brabeck, & Howard, 1999). However, the interactive complexity of service-learning efforts makes it impossible for any single individual or profession to take an expert role in these processes. With acknowledgment of the complexity of program design and service delivery, greater focus is being placed upon

the importance of interprofessional collaboration (Brabeck, Walsh, Kenny, & Comilang, 1997; Lerner, Walsh, & Howard, 1998). Interprofessional collaboration allows program personnel and service participants to collaborate and communicate across professions and areas of expertise in the design and implementation of service-learning programs. Interprofessional collaboration may include teachers, counselors, and community agency staff jointly determining the focus, delivery method, and desired outcomes of a particular service-learning program.

While little research has investigated the potential for interdisciplinary collaboration in service-learning, researchers are beginning to explore this area (Connors, Seifer, Sebastian, Cora-Bramble, & Hart, 1996). This cross-disciplinary involvement has the potential to produce a greater sense of community connectedness, while also providing a model for youth that bridges multiple disciplines and incorporates local knowledge in pursuit of multifaceted, effective interventions. A multidisciplinary approach to service design and delivery has the added potential to address a broader range of multiple domain and contextual issues and to access a greater pool of resources (Lerner, 1991).

General Program Design Considerations

A developmental-contextual frame may also assist coordinators in addressing many overarching program design issues. Since service-learning programs involve multiple contexts and interactions on a variety of levels, it is difficult to fully predict how projects will progress. Unexpected difficulties can serve as the norm, rather than the exception, and service-learning researchers and practitioners should be prepared to adjust service strategies to address the various idiosyncrasies that occur (McLaughlin, Irby, & Langman, 1994). Since individuals and communities do not remain static, service-learning programs must recognize and adapt to the changing developmental and situational needs of participating students and community members (Schorr, 1997).

Flexibility

The many influences on individual and systemic levels over time necessitate flexibility in service-learning programs. Flexibility and creative problem solving have been identified as essential to effective service-learning interventions (Education Commission of the States, 2000). Structural support for feedback opportunities promotes openness to change over the course of a service-learning project. Feedback opportunities provide avenues to assess and monitor program process and effects and to determine needed adjustments (Education Commission of the States). A format of

interactive student and community reflection has been suggested as a means to check assumptions and review progress periodically throughout a service-learning project (Maybach, 1996).

Developmental Fit

A developmental fit between a service-learning program and its participants has also been identified as critical to the success of service-learning interventions (Yates & Youniss, 1996). Adolescence, a typical time for service-learning interventions, has been described as a period of striving to form a unique, autonomous identity and self-concept while maintaining some connectedness with others (Dacey & Kenny, 1997). Developmental theory (e.g., Erikson's theory of identity formation) has been used to guide service-learning efforts in designing and implementing programs that are consistent with the developmental processes of adolescents and which can shape a healthy framework for future identity (Yates & Youniss, 1998; Youniss & Yates, 1997). While several service-learning programs have utilized developmental theory in their program structure considerations, developmental-contextualism provides an expanded, dynamic view of developmental process and outcomes.

Program Length

The multiple challenges faced by today's youth also suggest that short-term programs may not be sufficient to enact lasting change. Interventions that cover extended periods of time are critical to sustained, positive change for student participants (Dryfoos, 1994). Students with more exposure to service-learning interventions have demonstrated more positive and lasting effects from these experiences than participants with less service exposure (Scales, Blyth, Berkas, & Kielsmeier, 2000). Research also links youth involvement in service-related projects with greater involvement later in life in civic activities than those who did not report youth service involvement (Youniss, McLellan, & Yates, 1997). This long-term approach to service-learning programming is consistent with the developmental-contextual notion of development and learning occurring across the lifespan. It recognizes the potential for lifelong participation and benefit from service-learning activities.

Long-term service-learning interventions may also be beneficial to community recipients of service. A long-term approach would counter traditional practice of limited engagement with communities that typically endured only for the duration of academic programs (Jenson et al., 1999). While financial and logistical limitations have traditionally restricted the longitudinal exploration of service-learning impacts, the use of longitudinal research is nonetheless important for the understanding of the long-term influence of service-learning programs. While there is much potential

for significant impact upon communities through long-term service-learning programming, additional research is needed.

Promotion of Strengths

Conceptualizing individual experience in terms of risk and resiliency not only reduces risks, but also promotes the practice of supporting individuals' strengths to encourage resilience. Not surprisingly, the goals of most service-learning programs are congruent with this theoretical framework. The goals of many service-learning programs involve identifying and mediating individual and/or community risk by promoting the individual's or community's natural strengths. Thus, service can be seen as a vehicle through which individuals' (community or student participants) strengths are promoted, which in turn may have moderating or buffering effects upon risk factors present in their lives. Likewise, this framework can be used to conceptualize the promotion of strengths and reduction of risks on a more systemic, community level.

In adopting this dual framework, participants of service-learning programs reject a solely deficit-focused model of service where service-learning programs promote the mindset of fixing a problem. Rather, service programs recognize that student participants in service-learning have both strengths and weaknesses (Maybach, 1996). Successful service-learning programs support the acquisition of needed skills and attitudes while recognizing the resources that youth bring to service-learning projects (McClaughlin, Irby, & Langman, 1994). Service-learning programs therefore help to promote competencies while at the same time reducing risks.

Effects of Service

The way in which the outcomes of service participation are evaluated has generated considerable focus in the service-learning literature (e.g., Yates & Youniss, 1996). Evaluative data focuses primarily on student variables and is often analyzed on a global, rather than an individual scale (Hamilton & Fenzel, 1988). Little attention has been given to the effects of service upon the recipients of service or the community as a whole (e.g., Keith, 1997). Further, research outcomes tend to reflect singular concepts, such as self-esteem (Newmann & Rutter, 1983), rather than the interactive relation between concepts.

A developmental-contextual frame can help inform these various evaluation decisions and provide a guide for examining the process by which change occurs through service. This approach entails a focus on both the individual and interactive nature of change. It promotes evaluative techniques that examine both group and individual outcomes using multiple

methods. No single approach to research evaluation can inform a question completely; the use of multiple methods helps create a clearer and more comprehensive view of the experience as a whole, as well as specific research questions (Gelso, 1979). Use of quantitative and qualitative evaluation to assess student and community outcomes are recommended to obtain a holistic picture of the effects of service-learning (Serow, 1997).

Level of Analysis

Some have argued that there is a need for more service-learning research to be focused on the particular goals of the specific program and the context within which the service takes place (Yates & Youniss, 1996). Several large studies have generalized across service-learning programs, with little attention given to programming and contextual differences, resulting in modest findings (Hamilton & Fenzel, 1988). Other modest findings have been attributed to the evaluation of general factors, rather than those consistent with the specific design of the intervention (Yates & Youniss). While these general studies have provided valuable information for the service-learning field, a smaller unit of analysis for future studies may provide beneficial information. For example, case studies or examinations of individual student change may provide valuable information regarding the impact of student characteristics and contexts upon service outcomes. This smaller unit of analysis can help programs structure themselves to best achieve desired outcomes consistent with the characteristics of participating students.

Singular vs. Interactive Outcomes

The reciprocal nature of a service experience means that student participants will experience both singular and interactive effects from their participation. Singular psychological and academic outcomes of service-learning participants, such as self-esteem, self-efficacy, alienation, community engagement, and school success variables, have been well documented (Calabrese & Schumer, 1986; Conrad & Hedin, 1989; Giles & Eyler, 1994; Olney & Grande, 1995; Stukas et al., 1999). Little research, however, has examined interactive effects or the impact that change in these various domains have upon each other. Since multiple domains and contexts interact to effect change in individuals, developmental-contextualism can provide both the rationale and the frame from which to design evaluations that examine these multiple interactive effects and processes.

Community Outcomes

Unfortunately, the effects of service-learning on community recipients of service are little documented (Keith, 1997; Maybach, 1996). Theoretical considerations suggest that collaborative relationships with students may

bring renewed energy and resources for community problem solving and empowerment (Keith). On a more systemic level, these interactions may foster and improve relationships between schools and their surrounding communities (Hart, Atkins, & Ford, 1998). These areas provide potential avenues for future evaluation research.

The interaction of contexts suggests that interventions aimed at one context may impact other contexts as well. When an individual changes his or her perceptions or attitudes as a result of a service-learning project, that individual has the potential to carry those changes into interactions with peers, teachers, and community members. Traditional service-learning goals of individual transformation in areas such as increased cultural sensitivity, commitment to collective futures, and belief in one's ability to enact social change, simultaneously support change on individual, community, and systemic levels.

CONCLUSION

A developmental contextual framework can be a useful tool for service-learning researchers and program designers. The four main principles can be used to assist in the design, implementation, and evaluation of multifaceted service-learning programs. It also provides a means by which to better conceptualize the impact of service upon individuals and communities and their reciprocal relationships with one another.

Service-learning programs represent a pivotal step toward expanding the realm of student education by placing students in new experiences and exploring the dynamic interactions between self, community, and society. This service experience can challenge assumptions that divide participating students from the communities in which they serve and create the potential to transform these individual and communal relationships toward mutual respect and collaboration (Maybach, 1996). By applying a developmental-contextual frame to service-learning, researchers and practitioners can begin to capture the complexities of the service experience. Future research utilizing this framework will provide valuable information on the process by which these complex relationships and interactions produce change in student participants, community recipients, and broader social systems.

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REFERENCES

Astin, A.W., Vogelgesang, L.J., Ikeda, E.K., & Yee, J.A. (2000). *How service learning affects students.* Los Angeles: Higher Education Research Institute, University of California.

Adelman, H.S., & Taylor, L. (2000). Promoting mental health in schools in the midst of school reform. *Journal of School Health, 70*(5), 171–178.

Billig, S. (2000). The impacts of service-learning on youth, schools, and communities: Research on K-12 school-based service-learning, 1990–1999. Retrieved on February 7, 2001 from *Learning In Deed* on the World Wide Web:http://www.LearninginDeed.org/research/slresearch/slsrchsy.html.

Brabeck, M., Walsh, M., Kenny, M., & Comilang, K. (1997). Interprofessional collaboration for children and families: Opportunities for counseling psychology in the 21st century. *The Counseling Psychologist, 25*(4), 615–636.

Bronfenbrenner, U. (1979). *The ecology of human development.* Cambridge, MA: Harvard University Press.

Brown, D.F. (2001). The value of advisory sessions for urban young adolescents. *Middle School Journal, 32,* 14–22.

Byrne, P.H. (1981). *Paradigms of justice and love.* (ERIC Document Reproduction Service No. ED 206 528).

Calabrese, R.L., & Schumer, H. (1986). The effects of service activities on adolescent alienation. *Adolescence, 21,* 675–687.

Close Up Foundation (2000). *Service learning quarterly: Reflection.* (http://www.closeup.org/sl_ef.htm).

Connors, K., Seifer, S., Sebastian, J., Cora-Bramble, D., & Hart, R. (1996). Interdisciplinary collaboration in service-learning: Lessons from the health professions. *Michigan Journal of Community Service Learning, 3,* 113–27.

Conrad, D., & Hedin, D. (1982). The impact of experiential education on adolescent development. In D. Conrad & D. Hedin (Eds), *Child and youth services, #4 (#3 and 4)* (pp. 57–76). New York: The Haworth Press.

Dacey, J., & Kenny M. (1994). *Adolescent development.* Dubuque, IA: Brown Communications, Inc.

Dryfoos, J.G. (1994). *Adolescents at risk: Prevalence and prevention.* New York: Oxford University Press.

Duffy, D.K., & Bringle, R.G. (1999). Collaborating with the community: Psychology and service-learning. In R.G. Bringle & D.K. Duffy (Eds.), *With service in mind: Concepts and models for service-learning in psychology.* Washington, DC: American Psychological Association.

Education Commission of the States. (2000). Providence, RI: Campus Compact.

Fine, M. (1992). *Framing dropouts.* New York: Teachers College Press.

Furco, A. (1994). A conceptual framework for the institutionalization of youth service programs in primary and secondary education. *Journal of Adolescence, 17,* 395–409.

Garmezy, N. (1974). The study of competence in children at risk for severe psychopathology. In E.J. Anthony & C. Koupernik (Eds.), *The child in his family, Vol. 3: Children at psychiatric risk.* New York: Wiley.

Garmezy, N. (1996). Reflections and commentary on risk, resilience, and development. In R. Haggerty, L. Sherrod, N. Garmezy, & M. Rutter, (Eds.), *Stress, risk and resilience in children and adolescents: Processes, mechanisms, and interventions* (pp.1–18). Cambridge: Cambridge University Press.

Gelso, C.J. (1979). Research in counseling: Methodological and professional issues. *Counseling Psychologist, 8*(3), 7–35.

Giles, D.E. Jr., & Eyler, J. (1994). The impact of a college community service on students' personal, social, and cognitive outcomes. *Journal of Adolescence, 17*, 327–339.

Greene, D. (1998). Reciprocity in two conditions of service-learning. *Educational Gerontology, 24*, 411–424.

Hall, M. (1991). Gadugi: A model of service-learning for Native American communities. *Phi Delta Kappan, 72*(10), 754–757.

Hamilton, S., & Fenzel, M. (1988). The impact of volunteer experience on adolescent social development. *Journal of Adolescent Research, 3*, 65–80.

Hart, D., Atkins, R., & Ford, D. (1998). Urban America as a context for development of adolescent identity in adolescents. *Journal of Social Issues, 54*, 543–530.

Jenson, P.S., Hoagwood, K., & Trickett, E.J. (1999). Ivory towers or earthen trenches? Community collaborations to foster real-world research. *Applied Developmental Science, 3*, 206–212.

Kahne, J., & Westheimer, J. (1996). In the service of what? The politics of service-learning. *Phi Delta Kappan, 77*, 593–599.

Keeley, R. (1981). *Thoughts on the curriculum of the PULSE program.* (ERIC Document Reproduction Service No. ED 206 527).

Keith, N.Z. (1997). Doing service projects in urban settings. In A.S. Waterman (Ed.), *Service-learning: Applications from the research* (pp.127–149). Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Lerner, R.M. (1986). *Concepts and theories of human development* (2nd ed.). New York: Random House.

Lerner, R.M. (1991). Changing organism-context relations as the basic process of development: A developmental contextual perspective. *Developmental Psychology, 27*, 27–32.

Lerner, R.M. (1998). Theories of human development: Contemporary perspectives. In R.M. Lerner (Ed.), *Theoretical models of human development, Vol. I: Handbook of child psychology* (5th ed.).

Lerner, R.M., Walsh, M.E., & Howard, K.A. (1998). Developmental-contextual considerations: Person context relations as the basis for risk and resiliency in child and adolescent development. In T. Ollendick (Ed.), *Comprehensive clinical psychology, Vol. 4: Children and adolescents: Clinical Formulations and Treatment.* New York: Elsevier Science Publishers.

Masten, A.S. (1994). Resilience in individual development: Successful adaptation despite risk and adversity. In M. Wang & E. Gordon (Eds.), *Risk and resilience in inner city America: Challenges and prospects.* Hillsdale, NJ: Erlbaum.

Masten, A.S., & Coatsworth, J.D. (1998). The development of competence in favorable and unfavorable environments. *American Psychologist, 53*(2), 205–220.

Maybach, C.W. (1996). Investigating urban community needs: Service learning from a social justice perspective. *Education and Urban Society, 28*, 224–236.

McLaughlin, M.W., Irby, M.A., & Langman, J. (1994). *Urban sanctuaries: Neighborhood organizations in the lives and futures of inner-city youth.* San Francisco: Jossey-Bass.

National Center for Educational Statistics. (1999). *Service-learning and community service in K-12 public schools.*

Newmann, F.M. (1991). Student engagement in academic work: Expanding the perspective on secondary school effectiveness. In J.R. Bliss, W.A. Firestone, & C.E. Richards (Eds.), *Rethinking effective schools: Research and practice* (pp.58–75). Englewood Cliffs, NJ: Prentice-Hall.

Newmann, F.M., & Rutter, R.A. (1983). *The effects of high school and community service programs on students' social development.* Madison, WI: Wisconsin Center for Education Research.

Olney, C., & Grande, S. (1995). Validation of a scale to measure development of social responsibility. *Michigan Journal of Community Service Learning, 2,* 43–53.

Raskoff, S.A., & Sundeen, R.A. (2000). Community service programs in high schools. *Law and Contemporary Problems, 62,* 74–111.

Rutter, M. (1979). Protective factors in children's responses to stress and disadvantage. In M.W. Kent & J.E. Rolf (Eds.), *Primary prevention of psychopathology, Vol. 3: Social competence in children.* Hanover, NH: University Press of New England.

Scales, P.C., Blyth, D.A., Berkas, T.H., & Kielsmeier, J.C. (2000). The effects of service-learning on middle school students' social responsibility and academic success. *Journal of Early Adolescence, 20,* 332–358.

Schine, J. (1997). School-based service: Reconnecting schools to youth at the margin. *Theory into Practice, 36,* 170–175.

Schorr, L. B. (1997). *Common purpose: Strengthening families and neighborhoods to rebuild America.* New York: Anchor Books/Doubleday.

Search Institute (2000). *An asset builder's guide to service-learning.* Minneapolis, MN: Author.

Serow, R.C. (1997). Research and evaluation on service-learning: The case for holistic assessment. In A. Waterman (Ed.), *Service-learning: Applications from the research* (pp. 13–24). Mahwah, NJ: Lawrence Erlbaum Associates.

Stukas, A.A., Clary, G.E., & Snyder, M. (1999). Service learning: Who benefits and why? *Social Policy Report: Society for Research in Child Development, 13,* 1–19.

Vasquez, J.A. (1994). Contexts of learning for minority students. In J. Kretoviks & E.J. Nussel (Eds.), *Transforming urban education* (pp. 291–300). New York: Teachers College Press.

Walsh, M.E., Brabeck, M.M., & Howard, K.A. (1999). Interprofessional collaboration in children's services: Toward a theoretical framework. *Children's Services: Social Policy, Research, and Practice, 2*(4), 183–208.

Ward, J.V. (1997). Encouraging cultural competence in service learning practice. In J. Schine (Ed.), *Service learning.* Chicago: University of Chicago Press.

Weah, W., Simmons, V.C., & Hall, M. (2000). Service-learning and multicultural/multiethnic perspectives: From diversity to equity. *Phi Delta Kappan, 81,* 673–675.

Werner, E.E., & Smith, R.S. (1982). *Vulnerable but invincible: A study of resilient children.* New York: McGraw-Hill.

Westheimer, J., & Kahne, J. (1994). *In the service of what? The politics of service learning.* Paper presented at the Annual Meeting of the American Educational research Association, New Orleans.

Yates, M., & Youniss, J. (1996). A developmental perspective on community service in adolescence. *Social Development, 5,* 85–111.

Yates, M., & Youniss, J. (1998). Community service and political identity development in adolescence. *Journal of Social Issues, 54,* 495–512.

Youniss, J., McLellan, J.A., & Yates, M. (1997). What we know about engendering civic identity. *American Behavioral Scientist, 40,* 620–631.

Youniss, J., & Yates, M. (1997). *Community service and social responsibility in youth.* Chicago: The University of Chicago Press.

CHAPTER 5

USING PROGRAM THEORY TO BUILD AND EVALUATE SERVICE-LEARNING PROGRAMS

Donald B. Yarbrough and Rahima C. Wade

INTRODUCTION

Why should service-learning professionals invest their time, efforts, and other resources in the demanding tasks of building and evaluating service-learning programs? Typically, we think of service-learning programs primarily as a way to do some good and to create an opportunity for beginners (e.g., pre-service teachers) to learn about service. One might easily conclude that taking the time to evaluate service-learning programs would require effort and resources that might be better spent on other goals. However, high quality designs for and evaluations of service-learning programs based on logic models (Funnell, 2000; e.g., Rog & Huebner, 1992, United Way, 1996) that integrate practitioner and researcher knowledge and theory (what Rogers, Hacsi, Petrosino, & Huebner, 2000, describe as "program theory") can produce important benefits that far outweigh the efforts they require.

Because service-learning is complex and multilayered, numerous variables affect the nature and quality of service-learning programs. In order to conduct complete and comprehensive studies of a service-learning pro-

gram, one must take into account the various layers (e.g., specific community and individual needs, available resources and ways to address the selected needs, the program's goals, and ways to document goal attainment) as well as the service-learning and other research and theory that is pertinent to each of these layers. Fortunately, program design and evaluation based on thorough logic models that incorporate program theory and knowledge (from researchers, practitioners, and in some cases participants) provide frameworks for comprehensive studies of service-learning programs. These designs and evaluations contribute to additional knowledge and theory (cf. Cook, 2000; Davidson, 2000; Rogers, 2000) and to our understanding of how research, knowledge, and theory can inform practice (Bickman, 2000). Such studies can lead not only to improved service-learning programs but also to better understanding of the variables affecting service-learning and the research questions in need of further investigation. Because service-learning programs are intended to have an impact on those who are "learning about service," theory-based program designs and evaluations also contribute to better understanding of how students change and grow during their program activities (cf. Eyler, 2000). This chapter describes for service-learning researchers and practitioners the advantages of and how to conduct theory-based program designs, implementations, and evaluations (Bickman, 2000; Chen, 1990; cf. Chen & Rossi, 1983; Weiss 1997a, b, 2000).

THEORY-BASED PROGRAM DESIGN AND EVALUATION FOR PROGRAM IMPROVEMENT

Historically, program evaluation grew out of research methods conceptualized as black box models (Bickman, 2000; cf. Worthen, Sanders, & Fitzpatrick, 1997). In this approach, the program is considered to be a "standardized," fixed-effect treatment having an impact on the program participants or recipients to achieve certain goals. Often set up as experiments or quasi-experiments, these evaluations (within certain constraints) were good at demonstrating whether the program produced the intended goal or not (Cook & Campbell, 1979). However, "black box" evaluations exhibited a number of failings. Often the outcome measures were insensitive to unintended positive or negative outcomes. Because most programs, especially service-learning programs, are complex, organic interventions that result from interactions of participants, resources, and activities in specific settings, no two are exact standardized replicates (Bickman, 2000; Cronbach, 1982; Hacsi, 2000; Joint Committee on Standards for Educational Evaluation, 1994). Each new program implementation is at least a slightly new treatment and must be observed, described, and documented.

This description requires extensive program specification to identify what the program components are and why a program should have its intended effects. Then the evaluation must monitor the program to determine if it took place as planned and what the intended and unintended outcomes are (Schalock, 2000).

Supplanting a black box approach, program theory-based evaluations incorporate prior understandings (from social science, practitioners, and other stakeholders) of all aspects of the programs to describe and build a basis for complex investigations about whether the program works as intended, and also how and why it succeeds and fails in specific (cf. Ban & Yarbrough, 1999; Cook et al., 1999; Fits-Gibbon & Morris, 1996). These understandings contribute both to program improvement and to our developing knowledge and theory about all aspects of the evaluated programs (Lipsey, & Pollard, 1989; Smith, 1994). Ultimately, theory-based program evaluation and design focuses not only on whether desirable outcomes occurred, but also on those necessary components and mechanisms for the outcomes (Hacsi, 2000). In the case of program failures, theory-based evaluation specifies areas for redesign of the program for improvement purposes.

THE CONTRIBUTION OF THEORY-BASED PROGRAM EVALUATION AND DESIGN TO SOCIAL SCIENCE KNOWLEDGE AND THEORY

Traditionally, researchers have identified numerous differences between research and evaluation, even when the methods involved were similar (Worthen et al., 1997). The most commonly identified difference was that evaluations are designed to produce judgments of worth or merit and that research is designed to find generalizable "truth." However, theory-based program design and evaluation increases the potential contribution to social science research and theory. In this approach to program design and evaluation, social science theory, in conjunction with practitioner theory, guides the program design and implementation. The program becomes an application of the combined social science and practitioner theories. Then the theory-based evaluation investigates the extent to which the program activities are congruent with the program theories and result in the intended outcomes. When the program is successfully implemented and produces predicted outcomes, the evaluation suggests that the program is congruent with theory. In other cases the program and its evaluation may suggest further research to clarify inconsistencies between theory and feasible practice or predicted outcomes.

When program designs and the theories that support them are actively investigated, made explicit, compared to current research knowledge and theory, and evaluated for internal consistency and effectiveness in explaining complex program outcomes, service-learning practitioners and researchers learn more about the fundamental nature of the context for service-learning. Evaluation designs based on these program theories often incorporate both best practitioner (educator, psychologist, social worker, etc.) and best social science knowledge and theory and evaluate the two simultaneously (Ban & Yarbrough, 1999; e.g., Chen, 1990; Chen & Rossi, 1992; Huebner, 2000). These theory- and knowledge-based service-learning evaluations can produce explicit detail about practitioner theories, applications of social science knowledge and theories, and a host of questions and/or hypotheses for further research studies relying on a wide variety of useful investigative paradigms and methods (Greene & Caracelli, 1997; Yin, 1992). Service-learning professionals, by adopting this approach to program development and evaluation, can contribute to knowledge about the useful aspects of practitioner knowledge and social science knowledge in applied settings (Bickman, 2000; cf. Harkavy, Puckett, & Romer, 2000).

THE VALUE OF THEORY-BASED SERVICE-LEARNING PROGRAM DESIGN AND EVALUATION

In addition to leading to program improvement, better outcomes, and more general social science knowledge, theory-based program design and evaluation can also benefit the service-learning community. Programs and projects are essential settings for research on service-learning (cf. Billig, 2000; Gray, Ondaatje, & Zakaras, 1999; Wade et al., 1999). Service-learning programs and projects facilitate theory and knowledge growth about service-learning because they serve as major vehicles for examining how beginners learn about service (cf. Eyler, 2000). Research on service-learning, although it is informed by a wide variety of research theories and paradigms (cf. Bringle & Hatcher, 2000; Wade & Yarbrough, 1996, 1997), is typically applied research, usually in the context, actual or retrospective, of service-learning programming.

Until service-learning researchers adopt state of the art program design and evaluation, at least in some situations with more mature learners, the impact of learning about program design and evaluation on service learner's development cannot be investigated. We do not yet know how theory-based program design and evaluation will affect the interests, motivations, and behaviors of those learning how and why to serve (cf. Eyler, 2000). One untested hypothesis for service-learning researchers is whether

learners will be more engaged in service when they are gaining more knowledge about what makes programs work best (i.e., if they are involved with service-learning professionals in theory-based program design and evaluation).

In addition, service-learning programs are different from other social and educational programs with regard to one important goal: they need to be designed and evaluated with the goal of improving students' growth. The theory-based design and evaluation approach is most useful in investigating how students are affected by their experiences providing the service. If the goal is both to provide a service to participants and to further the learning of those providing the services, then a program theory-based approach to designing and evaluating the program could address either or both goals through separate evaluation foci, each requiring different knowledge and theory (cf. Weiss, 2000). This approach would be most effective if the chain of logic demonstrating how the service-learning program should achieve its outcomes were simultaneously guiding the development of the program and its evaluation design (Funnell, 2000). This kind of evaluation planning should take place when the service-learning program is being designed or selected to facilitate timely decisions about how to modify the program and its evaluation and allocate limited resources (Worthen et al., 1997; Weiss, 2000).

Sometimes, service-learning in a service delivery program or activity is viewed as a uniform treatment that results in a wide variety of good outcomes. However a review of the service-learning research literature reveals that in different studies, service-learning means very different things: "from a single visit to a soup kitchen, to a few hours a week of 'extra credit' for tutoring, to an intensive semester focused on working with a community partner on a social problem (Eyler, 2000, p.12). In addition, the outcomes of these activities are often not logically connected to mechanisms affecting students' experiences and learning (Eyler, 2000). Service-learning researchers using the program-theory approach to build and evaluate their service-learning programs will clarify and specify in detail what the nature of the "service-learning" in this program is, how the service-learning activities engage the mechanisms that should result in the desired outcomes, what the nature of those outcomes are, and how they should be documented (e.g., specific participant benefits and/or specific service learner knowledge, skills, attitudes or behaviors) (cf. Cook, 2000; Eyler, 2000).

WHAT IS A SERVICE-LEARNING PROGRAM?

For the purposes of this paper, a *program* is any systematic effort to apply specified resources to delimited social, educational, or other situations

(and specified people in them) in order to achieve specifiable goals and objectives (Rossi, Freeman, & Lipsey, 1999; Weiss, 1995; cf. Worthen et al., 1997). A complete and thorough program description (Worthen et al., 1997) should take place during the design process and is absolutely essential before the planning and implementation of an evaluation.

Service-learning programs distinguish themselves from other educational or social programs because in addition to concerns for the participants in the program, a primary goal is that those who are learning about service through program activities (the students) experience positive changes in their knowledge, skills, attitudes, and/or behaviors. A thorough description of a service-learning program would ask questions about both the *service-learning* and the *community service* components. Table 1 clarifies this distinction by providing typical questions to be answered by a description addressing both the specific service-learning as well as the community service aspects.

Table 1. Illustrative Sample Questions About the Community Service and the Service-Learning Program Components

1. Needs

What is the need for the program and the problems the program will address?

- How does the general problem area (for example, illiteracy) break down into specific needs, sub-problems, or micro-deficits (e.g., insufficient ability to make grapheme/phoneme pairings, specific learning disability that interferes with perceptual processing, cognitive deficit resulting in inadequate higher order schemas)?
- What are all the different types of sub-problems?
- What are the probable causes for each sub-problem, specific need, or micro-deficit in this setting and context?
- Are there different causes for different subgroups and sub-problems?
- How are the specific schooling experiences related to the causes and solutions for the sub-problems?
- How are the specific out-of-school experiences related to the causes and solutions of the sub-problems?
- How are individual differences related to the causes and solutions for the sub-problems, etc.?
- Are the selected sub-problems and their causes located at the superordinate, macro, or micro level in the setting where we plan a program/intervention?
- How should we pick the specific sub-problems to address with a program/intervention? Are there other equally important sub-problems that could be addressed easily and efficiently at the same time?
- Have we picked an important sub-problem to address, with a clear enough causal hypothesis that an intervention might succeed?

What are the needs for improved knowledge, skill, behavior, and attitudes in these students?

- Are the needs the same across all participating groups of students?
- How did these needs come about?
- Which ones can be addressed by participation in this program?
- Why is it important to address this specific need or needs?
- How should competing needs be evaluated in order that our efforts address the most important ones?
- What does the research literature on service-learning say about the needs of the groups we have identified?

2. Characteristics of the people who will be affected

What are the characteristics of the selected program participants?

- Given the specific sub-problems, needs, or deficits identified in Number 1 above, who are the possible targets for, recipients of, or participants in the possible program/intervention?
- Are there other possible participants that could benefit from the same program/intervention and how?
- Who are the members of all the different, possible sub-groups of participants for the intended program?
- What are their defining and important characteristics with regard to whether the causes of the sub-problem match the possible program interventions?
- How should we describe precisely the intended program participants?
- How should we choose between different groups of possible program participants?
- How should we recruit program participants to ensure a good match to the intended program?
- What principles and procedures guide recruitment of participants; for example, are we recruiting for maximum program success, to help those most in need, or for some other purpose?
- Is our approach to recruiting this set of participants good?
- How might the sub-problems, causes, solutions, and program effects be different for different individual and sub-groups of participants?
- Have we picked an important group to serve with our program? In this context, are we addressing equity, feasibility, political viability, and need with this choice of participants?

What are the characteristics of the students?

- Will the program affect them all similarly?
- In what ways do their activities and experiences need to be individualized to maximize their learning? (e.g., is ethnicity or gender important? cf. Chesler & Scalera, 2000)
- How do developmental issues play out for learners at different ages or in different developmental stages?

3. Addressing needs (or solving problems)

What are some possible solutions to meet the program participants' needs?

- Given the identified sub-problems, etc., of the selected participants and the possible/probable causes of the sub-problems in this sub-group, what are all of the effective and efficient solution possibilities that are potential candidates for inclusion in a program/intervention?
- How would we evaluate the equity, fairness, efficiency, effectiveness, leverage, feasibility, political viability, scope, and dependability of the proposed solutions?
- What is the best process for examining and picking the most meritorious and worthy solution(s) for this setting, these sub-problems, these identified participants, and this proposed intervention/program?

What are some possible solutions to meet the students' needs?

- What should the students actually do in order to learn best?
- How do characteristics of the learners interact with other layers of the service-learning program to result in best student learning? For example, is reading aloud and tutoring with the appropriate reflective component enough or should the learner participate at a more complex level and also understand more about why the programs are supposed to work and whether they do?
- Which aspects of the community service components affect student benefit and growth from the experience?

4. Program goals

What are the community and participant goals?

- What are the best goals for this program, stated in terms of these sub-problems for these participants?
- Which goals are best described as process goals (things that need to be done) and outcome goals (changes that take place in skills or other outcomes)?
- How do we evaluate these goals?
- What are other system- or organization-related goals?
- What are goals for other stakeholders affected by the program?

What are the goals for the students?

- Have we identified the most important goals?
- What goals are best described as process-goals (things that need to be done for or by students) and outcome goals (changes that take place in students' skills or other outcomes)?
- Once all possible goals have been stated for these students, how would we evaluate them?
- Which are most meritorious and worthy?
- Which goal will we monitor to know if we are making progress?
- How will we know if these goals have been attained at an acceptable level and how they have been attained or why they have not been attained?

- Who should be involved in evaluating the quality of the goals as well as how goal attainment is investigated?
- How should competing goals be evaluated?
- How will we evaluate the quality of these goals in the context of current service-learning research, knowledge, and theory?

5. Resources

What resources are available and required to achieve the community service program goals?

- What human, financial, organizational, material, and other resources are required to make this program work?
- What off-the-shelf materials are available?
- What training is available?
- In what ways can we get the resources we need to make this program work?
- Are there available unutilized or under-utilized resources that can be tapped?
- What available complementary, volunteer, donated, or other sources of resources are available that we don't have to budget for?
- What other complementary or competing programs are in place that may affect our program?
- In what ways are program participants and other stakeholders available as resources to the program?
- Are there any ways that resources might be wasted if we don't exercise proper precautions?
- How will we monitor and document resource use?
- How will we constantly improve resources use?
- Are any resources interfering with goal attainment or in any way exacerbating the sub-problem we have set out to address?

What resources are available and required to help our students achieve these selected, best goals?

- What human, financial, organizational, material, and other resources are required for our students to grow and develop?
- Is the community service program that we have chosen for their learning activities compatible with who they are and the selected goals?
- Are there other community service programs that would work better?
- How will we monitor and document what actually takes place so that we can evaluate our model of what was supposed to take place?
- What other resources are needed for our learners to benefit maximally?

6. Program implementation and activities

How will the program be implemented? What program activities take place?

- Given the identified sub-problems, chosen participants, solution approaches, prioritized goals, and available resources, what program activities do we plan?
- What would be the ideal set of program components?

- How will we monitor actual program activities/components?
- How will we know what the participants and other stakeholders actually experience (i.e., their view of the program activities compared to what we have proposed for the implemented program)?
- How are the actual participants that we recruited interacting with the program staff and activities?
- How are recruits and program staff different from and similar to our expectations?
- How do participants and program staff help and/or interfere with one another?
- How do program staff adapt and change the program activities/interventions to meet the needs of the specific recruited participants?
- What are the best monitoring methods to capture information to describe the program for documentation, evaluation, and decision making?
- What factors in the current setting affect the program activities positively and negatively?

What activities will the students actually engage in and how do they fit into the program?

- Given the needs of the students, their characteristics and prior knowledge, the proposed approaches and goals, and the available resources, what activities and experiences will most help the students grow and develop?
- Why are these activities supposed to result in the specific learning goals and objectives?
- What intervening mechanisms, reflections, or outside activities are needed?
- How will we monitor their activities to be sure what they actually do and experience?

7. Outcomes and impacts

Given the goals, activities, participant experiences, program staff, resources brought to bear, sub-problems and their probable causes, what short- and long-term, enabling and final outcomes and impacts can we expect?

- What are the different domains of intended and unintended but possible outcomes (e.g., behavioral, cognitive, emotional, motivational, etc.)?
- How should we define the outcome variables conceptually?
- How should we measure them?
- Once we have listed all possible ones, which outcome variables are most important to investigate? Which are the most valuable for different audiences to know about?

Given our model about why these activities should result in changes in the students, what short- and long-term, enabling and final outcomes and impacts on the students can we expect?

- What are the different domains of intended and unintended but possible outcomes?
- Which are the most important to investigate and how will we define and measure them?

Designing and evaluating service-learning programs with systematic attention to all aspects of the program, both for the program participants and the participating students, also requires attention to the logic that connects the needs, goals, resources, activities, and outcomes together for the people involved. These logic models (e.g., Funnell, 2000; Rog & Huebner, 1992, United Way, 1996) are useful heuristics for organizing the program designs and evaluations to maximize impact and contributions to research and knowledge.

LOGIC MODELS FOR SERVICE-LEARNING PROGRAMS

Once a clear program description is in place (Table 1) with specific problems or needs, a target group of participants and students, and potential solutions, the theory-based program and evaluation design describes a "working" causal model for what created the problem, need, or deficit in the particular situation for these specific participants. The design identifies the resources needed to implement the solutions that could address the causes of the problems. As part of the design, the program logic model describes the chain of assumptions, hypotheses, and arguments that guide resource use in the implementation plan to achieve the program goals. It describes how all aspects of the program should function to result in the outcomes. The logic model is the blueprint, based on program theory, to guide the design of the program and the evaluation. Once the program description and the logic model are complete, those who are doing the program planning can then make decisions about how to actually implement the program and which components of the program to monitor, investigate, and evaluate.

In service-learning programs, the program description and logic models supporting questions about the students are best created in tandem with the description and logic model for program recipients. Without knowing what the program is and how the students fit into it as a resource to help deliver program services, it is more difficult to specify the logic model for the students. The specific program description and logic model for the students can stand alone, however, as long as it is complete. It must describe a "working" causal model linking the student outcomes to their activities and experiences (including discussions, reflections, etc., that are complementary to the service delivery activities). The design identifies the resources needed to meet the goals for the students. It provides a chain of assumptions, hypotheses, and arguments that tie the resources to the activities that lead to the desired outcomes. This completed logic model describes how all aspects of their activities and experiences should function to result in the outcomes for the students.

How to allocate evaluation and investigative resources, either to monitoring and documenting the program with regard to participant outcomes or with regard to student outcomes, is a difficult decision. Typically, theory-based evaluations are resource intensive and demanding (Shadish, Cook, & Leviton, 1991; Stufflebeam, 2001). Those who direct service-learning programs will always have to make difficult decisions about where to invest their evaluation resources, but the best decisions can be made only after all components have been described, the logic models are complete, and the available evaluation resources have been identified (Weiss, 2000). Then interested stakeholders and participants can meet with staff and evaluators to decide which are the most important issues to investigate and evaluate.

Research on service-learning provides important theory and knowledge to guide evaluations of the programmatic efforts supporting service-learning. In addition there will likely be situations where existing social science and practitioner theories are inadequate to describe sufficiently the logic model for the program impact on the participants (Stufflebeam, 2001). In those situations, it makes sense to conduct a scaled-back evaluation of the program effects on participants and a more thorough evaluation of the program and its effects on students.

APPLICATION OF THIS APPROACH

The following case examples describe an approach to designing and evaluating a program to increase literacy of K-3 students at a public school where school funding depends in part on the students' academic achievement. The emphasis is on pre-service teachers and high school students who are involved in a service-learning experience.

Program Setting, Problems, and Needs

This situation is challenging because in this school there are countless factors that could interfere with students' acquisition of literacy. The school has a high incidence of students below poverty, in "free meals" programs, and living in less than ideal family structures and situations. Few have access to high quality preschool activities or care. Many enter kindergarten without the prerequisite behavioral and cognitive skills to benefit from the pre-literacy activities. Many have poor or little literacy support in their homes or in the school. The classrooms are overcrowded and lacking needed aids and materials. Poverty and substance abuse are entrenched in the community. Child abuse and neglect are ongoing concerns. Many teachers feel overwhelmed or burned out, and some routinely transfer to

more desirable schools or leave the profession for better paying jobs. A new statewide testing policy threatens schools that perform below average with reduced funds. Teachers expect that their already low salaries will remain flat or even become lower.

There are too many problems in this situation to fully disentangle them. After studying the school, talking with teachers, the principal, a district school psychologist, other reading teachers, social workers and community leaders, some parents and students, and a reading researcher specializing in this kind of situation (through formal and informal needs assessment procedures, Witkin & Altschuld, 1995; cf. Wholey, 1987), we decide that the most important subproblem to address is the lack of instruction for the "average" student (the student who could learn to read with relatively easily delivered tutoring and who hasn't been diagnosed with specific learning or reading disabilities). We come to the conclusion that possible factors resulting in average students' reading below grade level in third grade are lack of social knowledge about and valuing of books and literacy, little previous history of pre-literacy activity, too little time spent on literacy activities, too little effective instruction tailored to their individual needs, and little motivation to learn to read.

The service-learning students who will work in this setting also have needs that must be addressed. Although as pre-service teachers they have learned about reading instruction and how to tutor, few of them have much experience tutoring in settings like this one. None of them have had any experience designing and evaluating a service program. They still have a lot to learn about the political settings for schools and the way that family and social problems affect instruction. Many have a good attitude about service but need more experience with service projects and the opportunity to talk about how to implement them and the benefits of them. We also decide to review the service-learning literature and conduct more formal inquiry into the prior knowledge, skill, attitudes, and characteristics of our students (cf. Leshin, Pollock, & Reigeluth, 1992).

Whom the Program Will Serve

With an eye to making our efforts most effective and efficient, we think of a large number of possible interventions and participants. We could design or choose programs to intervene at home, at school, before or after school, through churches or other community organizations. These programs could address the needs of different groups of teachers or parents primarily with the expectation that changes in teacher or parent motivations and skills would directly affect the children's literacy. Alternatively, these interventions could focus directly on one or more specific groups of

children. Based on all of our conversations with practitioners, stakeholders, and experts, as well as our interests and available resources, we decide on a program providing direct tutoring to students with no history of behavioral or cognitive disorders that would prevent their benefitting from the kind of interventions we can provide. We decide to work with third graders who already know their letters and can sight recognize at least a few words and who have at least minimum ability to comprehend oral stories and information. This decision fits nicely with the recognized needs of the service-learning students in the class who will serve as volunteer tutors.

Solutions

The "working" logic model guiding our program development at this point is that our targeted students are below their grade level in reading ability as a result of too little appropriate individual and group instruction in pre-literacy and literacy skills. Obviously, we cannot go back in time and give them a literacy-encouraging, rich home environment with many pre-literacy acquisition opportunities; parents, siblings and peers who are avid readers; small student to teacher ratios; the best trained, most energetic, and most skilled preschool and school teachers; or richly outfitted, focused classrooms with all necessary supporting materials and technology. Rather, we brainstorm all the things we could do right now to try to eradicate the effects of the causal factors our targeted students have experienced so that they can achieve appropriate levels of literacy. We think of one-on-one tutoring programs with various materials; computer curricula to train phonics and sight/sound correspondences; group and peer instructional formats; parent/child instructional formats; formats emphasizing reading silently and aloud; reading combined with discussions and with writing and without. Because we have been careful not to define the subproblem in terms of only one solution or preferred intervention, we (in conference with practitioners, stakeholders, experts, etc.) are able to come up with a list of more than 30 possible solutions that would alleviate some of the damage done by the history of literacy "neglect." We decide to wait to choose the actual solutions to guide our program design until we have examined all the possible goals and available resources. We also look at previous evaluations of individual tutoring programs and the appropriate professional literature (Hinchman, 1999; e.g., Honig, 2001; Stahl, Kuhn, & Pickle, 1999).

As we think about the learning needs of our students and what activities might best provide the experiences and activities to bring about improved skills, behaviors, knowledge, and attitudes, we realize that many of the proposed solutions for the needs of the children are congruent with the needs

of the service-learning students. The students will need training and orientation, as well as adequate reflection, discussion, and supervision as part of the set of solutions addressing their growth needs. We set about to outline the activities that the service-learning students might experience to prepare, conduct, reflect on, integrate, and learn from. We try to list all possibilities and set up procedures to evaluate them and choose the final activities later based on our logic model of how the students will learn.

Goals

After some discussion, we decide our primary program goal is focused at the individual student level. Our goal is for our participants to make substantial progress toward reading at or above grade level after one year of participating in our program. We also want our participants to be motivated to continue to read and to continue to make above average progress for themselves in reading and writing. One important secondary goal is at the classroom level. We want our program to contribute to a classroom environment where students want to learn to read, will engage in learning to read consistently, and value literacy. A second goal is to help the school demonstrate student progress so that funding will be maintained or increased. A third goal is to be supportive of able teachers who are willing to work on student literacy so that they will be more likely to continue working at this school.

The goals for the service-learning students are very much related to their growth in knowledge about schools, tutoring for literacy improvement, and service programs; growth in skill and ability to design, implement, evaluate and learn from such activities; and increased understanding of the value of these service projects and motivation to continue seeking out opportunities for themselves and to teach others about service.

Resources

We query all our informants about resources and find that the school parent-teachers organization will help secure after-school or before-school space, that some parents want to volunteer, that a local church would be eager for us to use their space during the week, that a business in a nearby industrial park already has a long-standing literacy support program and would be willing to let employees volunteer for ours, if it is approved, and might be willing to help train reading tutors. As a result of our conversations with local religious and civic leaders, a local phone company offers a cell phone with 300 free minutes if it will help us; a pizza business offers to

host pizza parties as a reward to our participants; and a beverage manufacturer offers t-shirts to everyone involved. Numerous practitioners and experts suggest curricula, training programs for our tutors, and computer programs that help by providing sight and sound simultaneously in a motivating software format.

The coach of the high school football team hears about our activities and has a suggestion. The coach offers to involve the football players in the off-season. He has three concerns. First, he believes that if his players are involved in tutoring other boys to read, they will feel their important positions as role models and take their own reading and studies more seriously. He hopes to keep his players in school and eligible through 12th grade. Second, he wants the players to learn about community service because he wants them to be contributing citizens when they leave school. Third, he is interested in recruiting the younger boys to play football, even as early as third grade, so that they can be in better academic shape and avoid trouble out of school. We also contact the girls' basketball coach and other coaches to see if we can recruit their players, too. As a final step, we make categorized lists of our resources and move on to design our program. The service-learning students from the teacher education program are also resources. Now that there are others (the high school students) available to tutor and learn from their service, we are faced with a new set of questions: What should be our learning goals for them and what are the best activities for them?

The service-learning goals for the pre-service teachers can be well served by these program goals. We brainstorm and add service-learning goals for the high school student athletes. We decide to pair student athletes with the pre-service teachers and have them discuss their learning about service. The pre-service teachers will formally interview the students about how they benefit from their service experience and how it could be made better, reflect on their own experiences, and write papers for their college professors. The English teacher at the high school agrees to give the high school students extra-credit for reflective essays about their experiences.

Program Activities

We decide to use one semester as a planning period in order to organize all the information we have and continue to have contact with our "advisory board" (teachers, tutors and other students, coaches, reading specialists, PTO reps, parents, professors, religious and community leaders, school psychologists, and administrators). During this semester we decide who will manage the program (facilities, logistics, etc.), make someone responsible for evaluation management and implementation, arrange for recruitment and training of the tutors (pre-service teachers and high

school students), set up a process to select a curriculum sensitive to the interests of the most likely participants (tutors will be involved), and design and set up the recruitment activities to ensure that we have participants who can benefit from the program in keeping with our logic model. Everyone involved in the planning is given a copy of the logic model and is encouraged to make suggestions about the most effective ways to implement the tutoring. The tutors organize themselves into groups of three (two high school and one pre-service teacher) to confer with one another and tailor their activities to their specific individual "literacy partner" (the working name given to the participants). Some tutors want to use print materials only, but some want to use computer and software time donated by a local church literacy group with a sight-sound correspondence software game. We agree that trying out different approaches in keeping with the advisory groups recommendations and the logic model is a good idea. To maximize the benefit to the pre-service teachers, we set up chat groups for them and involve them in the ongoing program design and evaluation meetings using program theory.

Program Impact

Will our participants' tests scores go up? Will they be motivated to read on their own? Will they read to their younger siblings or with peers or their parents more often? Will they feel better about school in general and their school in particular? Will their teachers notice a difference? Will they have a harder time paying attention in school if the tutoring is too entertaining and interesting? Will tutoring become something that interferes with play or down time, and thus become a negative? How will the tutors benefit? Will their literacy improve? How many will stay the course and not drop out? Will being a tutor interfere with school activities and studying and have a negative impact? How many tutors will consider becoming teachers as their chosen profession? Are teachers in school aware of and happy with the tutoring program, or is it interfering with their curricula? How does it affect teachers' feelings about the school and their motivations?

We also have many questions tied to the literature on service-learning related to our pre-service teachers and to the high school students. What student characteristics predict a good service-learning experience? Do the high school students and the pre-service teachers benefit equally? Are there developmental issues? For those students involved in designing and evaluating the project, were there differences in their service-learning outcomes? The lists of questions go on and on.

We review the program descriptions and the logic models describing what will produce outcomes for the program participants and what will

produce outcomes for those learning about service in order to be sure that we have not omitted any important questions. Then we review our resources again and finalize plans for the program implementation and the evaluation.

SUMMARY

To be able to design, plan, implement, and evaluate service-learning programs built on current knowledge and theory is demanding. In addition to marshalling the service-learning research to guide our inquiry into the learning needs of our students delivering services in the programs, we need skill in building logic models, program descriptions, program management, and research and evaluation design and information collection. This chapter and the literature that it references provide the rationale for this undertaking and some suggestions about how to get started.

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REFERENCES

Ban, J.C., & Yarbrough, D.B. (1999). *An investigation of practitioners' program theories in an evaluation of minority teacher recruitment programs.* Paper presented at the Annual Meeting of the American Evaluation Association, Orlando, Florida.

Bickman, L. (2000). Summing up program theory. In P.J. Rogers, T.A. Hacsi, A. Petrosino, & T.A. Huebner (Eds.), *Program theory in evaluation: Challenges and opportunities* (pp.103–112). New Directions for Program Evaluation, No. 87. San Francisco: Jossey-Bass.

Billig, S.H. (2000). Research on K-12 school-based service-learning: The evidence builds. *Phi Delta Kappan, (81)*9, 658–664.

Bringle, R.G., & Hatcher, J.A. (2000). Meaningful measurement of theory-based service-learning outcomes: Making the case with quantitative research. *Michigan Journal of Community Service-Learning,* (Fall Special Issue), 68–75.

Chen, H. (1990). *Theory-driven evaluations.* Newbury Park, CA: Sage Publications.

Chen, H., & Rossi, P. H. (1983). Evaluating with sense: The theory-driven approach. *Evaluation Review, 7,* 283–302.

Chen, H., & Rossi, P.H. (1992). *Using theory to improve program and policy evaluations.* New York: Greenwood Press.

Chesler, M., & Scalera, C.V. (2000). Race and gender issues related to service-learning research. *Michigan Journal of Community Service-Learning,* (Fall Special Issue), 18–27.

Cook, T.D. (2000). The false choice between theory-based evaluation and experimentation. In P.J. Rogers, T.A. Hacsi, A. Petrosino, & T.A. Huebner (Eds.), *Program theory in evaluation: Challenges and opportunities* (pp. 27–34). New Directions for Program Evaluation, No. 87. San Francisco: Jossey-Bass.

Cook, T.D., & Campbell, D.T. (1979). *Quasi-experimentation.* Boston: Houghton Mifflin.

Cook, T.D., Habib, F.N., Phillips, M., Settersten, S.C., Shagle, S.C., & Degirmencioglu, S.M. (1999). Comer's school development program in Prince George's County, Maryland: A theory-based evaluation. *American Educational Research Journal, 36*(3), 543–597.

Cronbach, L.J. (1982). *Designing evaluations of educational and social programs.* San Francisco: Jossey-Bass Publishers.

Davidson, E.J. (2000). Ascertaining causality in theory-based evaluation. In P.J. Rogers, T.A. Hacsi, A. Petrosino, & T.A. Huebner (Eds.), *Program theory in evaluation: Challenges and opportunities* (pp. 17–26). New Directions for Program Evaluation, No. 87. San Francisco: Jossey-Bass.

Eyler, J.S. (2000). What do we most need to know about the impact of service-learning on student learning? *Michigan Journal of Community Service-Learning,* (Fall Special Issue), 11–17.

Fetterman, D.M. (1992). Theory in evaluation: We think, therefore we theorize (An ethnographer's perspective). In H. Chen & P.H. Rossi, (Eds.), *Using theory to improve program policy evaluations* (pp. 115–126). New York: Greenwood Press.

Fits-Gibbon, C.T., & Morris, L.L. (1996). Theory-based evaluation. *Evaluation Practice, 17*(2), 177–184.

Funnell, S.C. (2000). Developing and using a program theory matrix for program evaluation and performance monitoring. In P.J. Rogers, T.A. Hacsi, A. Petrosino, & T.A. Huebner (Eds.), *Program theory in evaluation: Challenges and opportunities* (pp. 91–102). New Directions for Program Evaluation, No. 87. San Francisco: Jossey-Bass.

Gray, M.J., Ondaatje, E.H., & Zakaras, L. (1999). *Combining service and learning in higher education: Summary report.* Santa Monica, CA: Rand.

Greene, J.C., & Caracelli, V.J. (Eds), (1997). Advances in mixed method evaluation: The challenges and benefits of integrating diverse paradigms. *New Directions for Evaluation, 74.* San Francisco: Jossey-Bass.

Hacsi, T.A. (2000). Using program theory to replicate successful programs. In P.J. Rogers, T.A. Hacsi, A. Petrosino, & T.A. Huebner (Eds.), *Program theory in evaluation: Challenges and opportunities* (pp. 71–78). New Directions for Program Evaluation, No. 87. San Francisco: Jossey-Bass.

Harkavy, I., Puckett, J., & Romer, D. (2000). Action research: Bridging service and research. *Michigan Journal of Community Service-Learning,* (Fall Special Issue), 113–118.

Hinchman, K.A. (1999). Querying reflective pedagogy in reading specialists' tutorial practica. In D.H. Evensen & P.B. Mosenthal (Eds.), *Reconsidering the role of the reading clinic in a new age of literacy* (pp. 133–148). Stamford, CT: JAI Press.

Honig, B. (2001). *Teaching our children to read* (2nd ed.). Thousand Oaks, CA: Corwin Press.

Huebner, T.A. (2000). Theory-based evaluation: Gaining a shared understanding between school staff and evaluators. In P.J. Rogers, T.A. Hacsi, A. Petrosino, & T.A. Huebner (Eds.), *Program theory in evaluation: Challenges and opportunities* (pp. 79–90). New Directions for Program Evaluation, No. 87. San Francisco: Jossey-Bass.

Joint Committee on Standards for Educational Evaluation. (1994). *The program evaluation standards* (2nd ed). Thousand Oaks, CA: Sage.

Leshin, C.B., Pollock, J., & Reigeluth, C.M. (1992). *Instructional design strategies and tactics.* Englewood Cliffs, NJ: Educational Technology Publications.

Lipsey, M.W., & Pollard, J.A. (1989). Driving toward theory in program evaluation: More models to choose from. *Evaluation and Program Planning, 12,* 317–328.

Rog, D.J., & Hueber, R.B. (1992). Using research and theory in developing innovative programs for homeless individuals. In H. Chen & P.H. Rossi (Eds.), *Using theory to improve program and policy evaluations* (pp. 129–144). New York: Greenwood Press.

Rogers, P.J. (2000). Causal models in program theory evaluation. In P.J. Rogers, T.A. Hacsi, A. Petrosino, & T.A. Huebner (Eds.), *Program theory in evaluation: Challenges and opportunities* (pp. 47–56). New Directions for Program Evaluation, No. 87. San Francisco: Jossey-Bass.

Rogers, P.J., Hacsi, T.A., Petrosino, A., & Huebner, T.A. (2000). Program theory evaluation: Practice, promise, and problems. In P.J. Rogers, T.A. Hacsi, A. Petrosino, & T.A. Huebner (Eds.), *Program theory in evaluation: Challenges and opportunities* (pp. 5–14). New Directions for Program Evaluation, No. 87. San Francisco: Jossey-Bass.

Rossi, P.H., Freeman, H.E., & Lipsey, M.W. (1999). *Evaluation: A systematic approach* (6th ed.). Newbury Park, CA: Sage.

Schalock, R.L. (2001). *Outcome-based evaluation* (2nd ed.). New York: Kluwer/Plenum.

Shadish, W.R., Cook, T.D., & Leviton, L.C. (1991). *Foundations of program evaluation.* Newbury Park, CA: Sage.

Smith, N.L. (1994). Clarifying and expanding the application of program theory-driven evaluations. *Evaluation Practice, 15*(1), 83–87.

Stahl, S.A., Kuhn, M.R., & Pickle, J.M. (1999). An educational model of assessment and targeted instruction for children with reading problems. In D.H. Evensen & P.B. Mosenthal (Eds.), *Reconsidering the role of the reading clinic in a new age of literacy* (pp. 213–248). Stamford, CT: JAI Press.

Stufflebeam, D.L. (2001). *Evaluation models.* New Directions for Program Evaluation, No. 89. San Francisco: Jossey-Bass.

United Way. (1996). *Measuring program outcomes: A practical approach.* Alexandria, VA: United Way of America.

Wade, R.C., Anderson, J.B., Yarbrough, D.B., Pickeral, T., Erickson, J.B., & Kromer, T. (1999). Novice teachers' experiences with community service-learning.

Teaching and Teacher Education: An International Journal of Research and Studies, 15, 667–684.

Wade, R.C., & Yarbrough, D.B. (1996). Portfolios: A tool for reflective thinking in teacher education. *Teaching and Teacher Education: An International Journal of Research and Studies, 12*(1), 63–79.

Wade, R.C., & Yarbrough, D.B. (1997). Community service-learning in student teaching: Toward the development of an active citizenry. *Michigan Journal of Community Service-Learning*, 42–55.

Weiss, C.H. (1995). *Evaluation: Methods for studying program and policies* (2nd ed). Upper Saddle River, NJ: Prentice-Hall.

Weiss, C.H. (1997a). How can theory-based evaluation make greater headway? *Evaluation Review, 21*(4), 501–524.

Weiss, C.H. (1997b). Theory-based evaluation: past, present, and future. In D.J. Rog & D. Fournier (Eds.), *Progress and future directions in evaluation: Perspectives on theory, practice, and methods* (pp. 41–55). New Directions for Program Evaluation, No. 76. San Francisco: Jossey-Bass.

Weiss, C.H. (2000). Which links in which theories shall we evaluate? In P.J. Rogers, T.A. Hacsi, A. Petrosino, & T.A. Huebner (Eds.), *Program theory in evaluation: Challenges and opportunities* (pp. 35–46). New Directions for Program Evaluation, No. 87. San Francisco: Jossey-Bass.

Witkin, B.R., & Altschuld, J.W. (1995). *Planning and conducting needs assessments.* Thousand Oaks, CA: Sage.

Wholey, J.S. (1987). Evaluability assessment: Developing program theory. In L. Bickman (Ed.), *Using program theory in evaluation.* New Directions for Program Evaluation, No. 33. San Francisco: Jossey-Bass.

Worthen, B., Sanders, J.R., & Fitzpatrick, J.L. (1997). *Educational evaluation: Alternative approaches and practical guidelines.* White Plains, NY: Longman.

Yin, R.M. (1992). The role of theory in doing case study research and evaluations. In H. Chen, & P.H. Rossi, (Eds), *Using theory to improve program policy evaluations* (pp. 97–114). New York: Greenwood Press.

CHAPTER 6

THEORIES GUIDING OUTCOMES FOR ACTION RESEARCH FOR SERVICE-LEARNING

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INTRODUCTION

This chapter outlines theories and methods that explain the linkages between service-learning and academic performance when K-12 students engage in the process of action research. It attempts to illustrate how service-learning can gain academic legitimacy in school environments where standardized discipline-based curricula (science, math, literacy and social studies) take precedence over other educational activities. By linking service-learning directly to specific academic outcomes, service-learning can be seen as a means for students to meet the academic goals of schooling.

Much of the research on service-learning is based on case studies or broad-based evaluation of general outcomes across multiple programs (Center for Human Resources, 1999). Missing is the focused, theoretically driven experimental and longitudinal research that links pedagogical theory with designated instructional and social outcomes (Eyler, 2000). This paper shows how critical and cooperative educational theories, when combined with action research, can provide a theoretically and methodologically consistent framework for service-learning in K-12 environments.

Current approaches to service-learning involve students in a process that exposes them to social settings where they can make a social contribution or provide a meaningful service to others who can benefit from it and who participate in defining the "need" or issue to be addressed (Furco, 1996; Porter Honnet & Poulson, 1989; cf. Weigert, 1998, p. 6). In contrast to community service programs, service-learning integrates students' service experiences into their coursework (Harkavy et al., 1998). At the same time, students are encouraged to reflect on what they learn about those experiences, about their own contributions, and about their role as members of a civic society (Garman, 1995). Students may make individual or group contributions, and the types of contributions they make and the settings in which they make them vary considerably.

The roots of the approach lie in the Deweyan concept that public education should build community. And in a number of ways, learning through service is a significant component of a liberal public school education (Dewey, 1916). Service helps individuals to avoid social and cultural alienation by becoming members of a broader social entity (civic engagement). The intentional reflection on their learning (reflective practice) is important to their personal growth as students and as individuals (Smith, 1983). The concept of service in service-learning is flexible including the provision of various forms of social or informational services to people with social, mental health, health and other needs, civic and political involvement (Becker & Couto, 1996; Delli Carpini, 2000; Hunter, 2000; Markus, 1997; Seigel & Rockwell, 1993) and political activism (Campbell, 2000; Claus & Ogden, 1999).

In the present educational climate, where standards and test scores drive instructional time and approaches, many areas of social, psychological and civic development that have been viewed as important in public and private school education are challenged to demonstrate relationships that are focused more squarely on academic outcomes. In many schools, the push toward improvement of low achievement scores in math, literacy, and science, coupled with pedagogical *practice* as drill and repetition disempowers creative teachers, ranks students by narrowly defined areas of achievement, devalues critical and creative thinking, and disassociates classroom learning from real life situations. Pedagogical *theory*, on the other hand, critiques these practices by arguing for the importance of active student engagement and self-reflection through problem-based learning, teacher self-reflection and feedback for instructional improvement, focused theory and local evaluation (Furco, 1996; cf. Nastasi, 1991). These interactive components of K-12 education are important with respect to all students, but are especially important in structuring learning environments for many students in marginalized urban areas who have been exposed to little evidence that formal education either provides cur-

rent value or can benefit them in the future (cf. Fordham & Ogbu, 1986). Action research for service-learning offers such students an opportunity to participate in interactive educational experiences designed to engage them in education that increases student school attachment while promoting cognitive, discipline-based and social skills.

Action research for service-learning is an activist oriented, participatory approach to addressing social problems that uses the methods and tools of the social sciences to involve students in identifying, conducting research on, and working to resolve social and environmental problems that affect themselves, their peers, and their communities. As Ellen Cushman (1999, p. 330) notes, current intellectual work (i.e., research) generates "knowledge for service"; service-learning creates "knowledge with those whom knowledge serves." With roots in anthropology, sociology, public health, and agricultural extension, action research involves communities and groups in research partnerships that utilize the tools of social science research and advocacy to address those issues that occur in the context of discrepancies in power, class, race, and other factors (cf. Masucci & Renner, 2000). These notions situate action research driven service-learning squarely in the tradition of action for social justice.

Action research for service-learning incorporates the principal components of service-learning: meaningful service in the context of a problem defined by a community of peers, integration into classroom curriculum, self-reflection, and personal growth. It offers service-learning a systematic way of introducing social and science literacy and related skills across disciplines while engaging them in organized efforts to bring about a change in policy or practice, thus promoting civic engagement.

The concept of action research has currency in teacher education and school reform, namely educator-driven research designed to improve practice (Calhoun & Allen, 1994; Sick & Shapiro, 1991). This form of action research in the field of education is very important for improving educators' understanding of instructional settings and student learning (Geltner, 1993; Jakar, 1993). Our use of the term "action research" however, is not about teacher driven research. Instead, we use the term to refer to educators' willing participation in a process of empowering students (and themselves) by helping students to: identify a social problem or quality of life issue that affects them and that they wish to address; work in partnership with others to conduct applied social science research to gather information on the problem and possible solutions; promote the solutions through education, community organizing and/or advocacy; and reflect on their learning and action. Action research for service-learning is thus less about teachers' own research and more about their use of cooperative education instructional techniques to further students' own action research projects. Coupled with action research methods and skills, action research for service-learning helps

students improve both the educational and community environments. The partnership between teachers and students engendered by this approach co-constructs new academic knowledge and skills in both and, when successful, can avoid the perpetuation of class and other distinctions that can occur through service delivery alone (Cushman, 1999). In sum, service-learning is not always action research, but when it is carried out through research partnerships between educational institutions and communities of need, and serves a community need, action research *is* service-learning.

Critical educational theorists, who provide the conceptual underpinnings of action research for service-learning, work from the premise that formal and informal educational institutions have a responsibility to address issues of inequity through critical analysis of the structures of power, dominance, and oppression. Giroux (1981b, p. 130), for example, argues for education as dialectic interaction between action and reflection in creating educational opportunities that empower students through involving them in critiquing and addressing social forms of oppression. Apple (1982, p. 3) sees schools as sites for social reproduction of class and other differences. Believing that this process affects teachers as well as students, he calls for teachers to examine and change the formal and informal characteristics of school culture that have a profound, often negative, impact on students' life chances, in relation to the larger societal context. Gilligan (1982) and other feminist researchers promote the concept of student voice, exploring the structures and classroom processes that prevent students from expressing themselves, and emphasizing the importance of narrative and stories in supporting self-reflection, self-realization, communication, and empowerment. Paulo Freire's work is a passionate argument for the right of people living in oppressed circumstances to conduct a critical analysis of their own reality which then allows them to transform it (Freire, 1995). Freire's well-known culturally-based instructional approach to literacy poses dilemmas illustrating contradictions in class and power. Using facilitated dialogue designed to identify contradictions in power, status, and resource allocation, this group approach to learning challenges groups of people to recognize barriers to their own social and economic development and structure new directions for change (Freire, 1995; Freire & Macedo, 1995). In each of these frames of reference, individuals are seen as resisting traditional power structures. They emphasize utilizing central symbols of culture, dialogue, and mutual learning/teaching among equals in order to move toward creating new and more equitable social and political structures. Forms of service-learning that involve reflecting on and critiquing disparities and working with community organizations or advocacy agencies to address these can readily draw on these critical or cultural theorists to frame their approach.

There are a handful of service-learning researchers who have promoted preparation, action, and reflection (PAR) as a strategy for linking (mainly

undergraduate) college campuses and community organizations (Greenwood & Levin, 1999; cf. Harkavy et al., 1998; Reardon, 1998). The components of the PAR process are also found in K-12 service-learning programs. High quality K-12 service-learning programs involve identifying a community problem (preparation), developing a strategy for "service" (action), and considering the implications of the service for learning (reflection) and civic engagement. What is missing, however, is the research component.

While these approaches as well as other forms of service-learning often include investigatory research, structured inquiry is not typically considered a central component of service-learning. Instead, structured inquiry is only one among many tools that are used to integrate service into the curriculum. There are, as yet, few service-learning case studies that illustrate the ways in which PAR or other social science research approaches are formally integrated into K-12 service-learning classrooms as a means to sharpen students' logical, literacy, science, and mathematics skills as well as their civic engagement, social capital, and social activism (cf. Campbell, 2000).

By formally linking action research processes with service-learning, we introduce several important elements. First the process is transformative. It is designed to bring about changes in the power relationship between individual, groups, and at the community level (i.e., it calls for a partnership of equals to conduct research to resolve community problems). Thus, individuals who are directly affected by the issue are actively engaged in the research process. Second, because the formal social science research methods can be directly linked to core academic disciplines—literacy, math, science, and social studies—educators can more easily see how service-learning activities link to their curricula. Finally, the approach depends on teamwork; thus, pedagogical theories related to cooperative learning are central to its success.

So, what are the critical components of action research for service-learning? The next section discusses these components. The paper then presents a discussion of instructional theory as it relates to group learning, the central role of educators as facilitators in implementing action research for service-learning, some implementation challenges, and the ways in which action research for service-learning can further the research agendas for service-learning (Billig, 2000; Eyler, 2000).

CRITICAL COMPONENTS OF ACTION RESEARCH FOR SERVICE-LEARNING

In order to understand the respective roles and responsibilities of K-12 educators and students in action research for service-learning, we first must consider the critical components of the approach. Action research is

directed toward investigating and addressing education, social, health, and other problems affecting people in communities. For the most part, these problems stem from inequities associated with race, class, gender, ethnicity, language, economic, social, environmental, or other sources, that result in inadequate or differential resource allocation. In educational settings, what differentiates service through action research from other forms of service is the fact that it teaches students to use the tools of social science research with other students and adults in their school community and to translate the results into service through social change (action). The processes of inquiry and associated action are empowering when students, with careful facilitation by engaged instructors, learn to question difference and inequity, to see community needs in that context, and receive support to work with others to take action to bring about change.

Action research for service-learning begins with a critical exploration of self-in-society, comparable to Masucci and Renner's pre-reflection phase involving understanding one's complex multifaceted historically rooted identity. This form of reflection enhances the student's ability to connect personal and political theories and actions (Masucci & Renner, 2000). Pre-reflection situates students and instructors politically in the context of race, ethnicity, language, and power. It is a "theoretical component" that addresses theories of change, action, and reflection on learning including the role of student as social change agent. The pre-reflection process can also reveal that conditions of poverty and related social problems are the result of historical, social and economic forces, rather than the fault of the individual and require collective strategies that address structural causes as well as immediate amelioration.

The research methods begin with conceptual modeling, a process that incorporates notions of relationship, hypothesis construction, causality, and the formulation of local theories that can then be linked to more general theories in the formal scientific literature (Schensul & LeCompte, 1999). With the assistance of educators, students identify their service-learning issue. Next they identify predictors, consequences and associated factors, and link them to the issue through the formulation of hypotheses. Typical examples are: fights and family alcohol use "cause" or lead children to run away from home; exposure to media, peer pressure, and unsupervised time "cause" or result in sex at an early age. The process also involves "vertical modeling" in which students analyze the constituent components of conceptual domains in their theoretical model using a taxonomic structure (e.g., family alcohol use could include "who uses alcohol," "occasions when alcohol is used," and "quantity of alcohol used").

Throughout the modeling or theory building process, students are asked to keep in mind what should change in each of the domains and what service strategies they can use (information, education, policy

change, organizing, advocacy) with other people to bring about desired changes in the issue. This process introduces students to the process of scientific thinking as well as to the idea that science plays a role in social change efforts. At the same time students learn persuasive communications skills, logical thinking, mutual understanding, ability to build on others' ideas (scaffolding), and strategies for coming to agreement on the components of the model.

Typically students learn about and select from a variety of ethnographic data collection techniques including different forms of interviewing, observation including mapping social spaces, surveys, cultural elicitation techniques, Geo-social mapping, photo documentation, and techniques for obtaining social network data. These data collection techniques are fundamentally ethnographic, that is, they are interactive, utilized in community or natural settings, and designed to obtain "the other's" point of view. Further, they call for the development of memory, listening and recording skills, visual representation, classification, and the creation of taxonomies (hierarchical conceptualization of domains). Students are required to collect information from peers and from adults with resources (power, money, decision making ability), who can be helpful or who may be obstacles to solving the social problem the students wish to address. These processes are tools for helping students gain empathetic understanding of others' perspectives as well as develop social and emotional skills. At the same time, these processes enable students to build social capital thus increasing their potential for future civic engagement. Throughout, students gain critical thinking and evaluation skills as well as enhanced self-esteem, as they are called upon to evaluate their individual growth, performance, and work, using a portfolio approach (Schensul, 1999). The outcomes identified with this approach are all desired service-learning outcomes (Billig, 2000; and see Table 1) and most are currently measurable using instruments listed in the compendium of measures on the *Learning in Deed* Website (cf. C.A.R.T., 2001).

Table 1. Action Research for Service-Learning Skills

Social Competencies	*Critical Thinking/Problem-Solving Skills*
• Negotiating ideas	• Problem identification
• Bridging across differences	• Steps in problem analysis
• Identifying and resolving conflicts	• Critical Analysis of alternative solutions
• Working in teams (defining and carrying out roles and responsibilities	• Recognition of information adequacy

Table 1. Action Research for Service-Learning Skills (Cont.)

Civic Competencies	*Educational Competencies*
• Recognizing and analyzing community problems • Identifying community resources • Taking ownership for finding solutions • Gaining political visibility • Learning and acting on models of social change	• Literacy skills (recording and writing interviews) • Reading comprehension (reviewing literature, seeking references) • Math skills (computation, quantitative data entry and analysis, graphs charts and other forms of mathematical presentations) • Social Studies skills (identifying and documenting intragroup cultural variations, discovering power structures, learning physical and social geography) • Science skills (learning scientific thinking)
Cognitive Social Intra-group Competencies	*Public Communication Skills*
• Idea presentation • Idea negotiation • Reciprocal "sense-making" • Idea consensus	• Developing a logical argument • Producing a visual/oral presentation • Speaking to an audience of adults and peers • Responding to unanticipated questions

The information students collect guides their actions with regard to their service. Their presentation of information about critical issues facing youth and adults could be considered a service, especially when it illustrates a problem about which their peers or the public know little. For example, a group of high school students examined gaps in mental health support systems for youth in the context of suicidal ideation, drawing attention to the fact that many high school students had contemplated suicide and persuading school personnel to seek appropriate services for suicide prevention counseling.

Students can also take this service activity one step further by transforming their information into a program of direct service with their peers to improve the quality of life in school and community settings, such as planning and carrying out the service calls for additional measurable skills including collaborative planning, mobilization of social, cultural and material resources, the definition and achievement of measurable benchmarks for achieving change, and reflection on the process. At the same time, the critical nature of the approach, when it is focused on discrepancies in power, gender, race, and local situation makes it both culturally and politically feasible for use with marginalized students. This approach provides opportunities for these students to analyze the circumstances that pose problems for them and their communities, and with support, to address them.

THEORIES OF INSTRUCTION

Service-learning calls for theories of instruction that are based on student-teacher partnerships and group approaches to learning that facilitate critical inquiry. Cooperative learning provides such a framework (cf. Nastasi, 1991; Johnson, Johnson, & Stanne, 2001). It is central to participatory action research or any other form of service-learning that calls for the involvement of groups in collaborative problem solving, information collection, and data analysis to guide group conducted change. Collaborative problem solving through cooperative education instructional methods enhances higher-level thinking, competence motivation, and interpersonal skills central to promoting learning and to the group negotiation required to meet the demands of social change efforts. These higher order thinking skills are critical elements in the service-learning conceptual model proposed to guide process and outcome research (cf. *Learning in Deed*, 2001). A major advantage of cooperative learning is that it provides the basis for building group educational as well as service norms and authentically embedded knowledge.

Cooperative learning occurs in a group process where the social construction of knowledge, perceptions, and behavioral norms takes place in specific contexts or settings or with reference to specific social problem (Bearison, 1982; Damon, 1983; Rogoff, 1990; Vygotsky, 1978; Wertsch, 1991). Central to social learning are two processes, the zone of proximal development and mediated learning. The notion of the "zone of proximal development" is especially critical if service-learning is conceptualized as a means of empowering students, because it assumes that every learner, including students with perceived learning disabilities, can and will do better if their learning is mediated by a more knowledgeable person. An experienced facilitator, with guided questioning and prompting, can extend earning capacity significantly beyond what students are able to do on their own, thus demonstrating their true rather than their tested learning potential (cf. Vigotsky in Wertsch, 1992). Mediation can take a variety of different forms, including the incremental addition of information, the use of probing questions, and the promotion of planned intragroup conceptual conflict or difference of opinion leading to structured controversy and the resolution of divergent viewpoints. The resolution process, which requires the acquisition of new information, good interpersonal communication skills, collaborative problem solving, the ability to negotiate divergent perspectives, and commitment to the joint construction of new ideas and norms, results in the development of higher forms of reasoning (Bearison, 1982). Students learn to build on and negotiate their own knowledge and experiential base by examining and recording their thoughts in an exercise and then sharing those thoughts with the group. Scaffolding and nego-

tiation occurs as facilitators assist students in small groups to integrate diverse perspectives into a product or viewpoint that reflects the views of all of the members. This product is then shared with the whole group and a dialogue may follow after which the facilitator helps the students to summarize the experience and the intellectual product resulting from everyone's contribution. Students are then encouraged to reflect on the experience, thus establishing a pattern of reflective learning that is readily extended to the service-learning context.

Because they combine cultural norms with the development of skills needed to identify, analyze, synthesize, and arrive at consensus regarding the solution of an educational problem, social constructivist approaches to learning are likely to promote the development of problem solving students, able to identify and access knowledge and other resources over time, and to generalize skills with peer group social reinforcement (Johnson, 1985, pp. 539, 541; Johnson, Johnson, Dudley, & Acikgoz, 1991; Johnson, Johnson, & Stanne, 2001). These skills are suited to any form of service-learning that calls for group engagement, inquiry, information collection and analysis, action, and reflection. Carefully facilitated by trained adult educators, the process can introduce and foster the co-construction of new knowledge and pro-educational group norms needed to maintain students' educational commitment and civic engagement, as well as improvements in direct action.

The educator plays a critical facilitative or mediating role in critical and cooperative education. In cooperative education, mediated learning provides the context for and guides the process of co-constructing knowledge and action. The facilitator (the educator, youth worker, or more experienced student) assists the participants to consider information, discuss ideas, construct new knowledge together, and develop group norms and directions that are consistent with learning and action goals without imposing ideas and values on the participants (guided versus directed instruction). This process requires effective use of four key techniques:

1. **Modeling:** demonstration of a skill such as questioning or decision making, followed by assisted practice.
2. **Scaffolding:** extending or building on ideas to move students toward a goal. The facilitator identifies the current level of the participant's knowledge/skill and through prompts, questions, and feedback guides the participant to a higher level of **knowledge** (e.g., more in-depth understanding) or **skill** (e.g., integration of all the steps of collaborative problem solving).
3. **Explication:**{em}making explicit the **knowledge or skill**(s) to be learned; and

4. **Reflection:**{em}reflect on the learning experience and the group process (cf. Nastasi & DeZolt, 1994).

If one way to describe the role of the educator is as facilitator in a mediated learning environment, a second is as cultural worker (Freire, 1998; Giroux, 1983). Like the teacher as facilitator, the teacher as cultural worker reflects on self and other in the context of student learning. However, the concept of teacher as cultural worker focuses on the political nature of education, the task of understanding the dialectic unity between theory and practice and the central role of educators in analyzing and addressing educational structures and policies that impede the education of students as inquirers. Teachers and students are most directly engaged in the educational process and yet they are the most removed from educational policy and decision-making. The role of educator as cultural worker calls for teachers to analyze critically their own social context within the educational system. Teachers come to see as their own responsibility the identification of sources of educational disadvantage, and through their own professional development, actively seek out solutions to educational problems. Rather than reproducing the status quo, teachers become change agents and, empowering themselves, they are better able to replicate or reproduce the process in students. Assisting students to engage in a critical dialogue about the social, health, and educational issues they believe need to be addressed has a threefold advantage: (1) the process of inquiry addresses the gap in educational programs related to questioning and active problem solving; (2) engaging students in critical analysis and action with respect to their own social situation empowers students; and (3) learning from partnership with students reveal gaps in education that educators feel compelled to address, thereby encouraging them to become risk takers in their own instructional environment.

Modeling, scaffolding, explication, reflection, and critical analysis are all central to the approach we describe here. Together they constitute a "package" of skills embedded in an orientation to learning that calls for training in critical analysis, group instructional processes, action research methods, planned service through education and advocacy and continuous reflection. Good training can ensure that educators understand how to use new curricula and information technology, Knowledge and skills are, however, necessary but not sufficient to ensure that curricula and technology will be used. To ensure appropriate and consistent use, educators must not only understand, but agree with, value, and practice program concepts, activities, and content. Valuing a program produces self-efficacious implementation, preparedness, and enthusiasm in administration, all important in motivating students to believe that their work is important (Rohrbach et al., 1993). Further, continuing training is critical to make sure that imple-

mentation is consistent with the theoretical infrastructure of the study and the methods of implementation, and that core elements of the intervention are consistent across sub groups and cohorts (Nastasi & Berg, 1999). Gingiss (1992) notes that a multiphase approach to staff development is needed to help staff through each phase, that continued training important and finally, that training must be tailored to skill levels of staff. Targeted staff training, continuing consultation, weekly problem solving sessions, and observation and instructional monitoring are all important dimensions of program evaluation that contribute to treatment fidelity and the potential for obtaining desired outcomes (Anderson, 1998).

STRENGTHS AND CHALLENGES OF THE ACTION RESEARCH FOR SERVICE-LEARNING APPROACH

Programs of service-learning in K-12 settings are socially compelling because they offer possibilities for creating new links among students of different backgrounds and interests, between students and caring instructors, and between students and their larger community and school settings (i.e., they build social capital [cf. Putnam, 1995]). They can develop traditional forms of student leadership by supporting student projects. They can support and promote civic engagement by involving students in service to others. They can be intellectually challenging when they utilize a problem solving model and provide structures for integrating systematic self-reflection into specific curricular goals and objectives (citations).

Missing from these major themes in service-learning, however, are several significant components: a systematic pedagogy for engaging groups of students in a critical analysis of social issues that affect them directly; a set of tools for developing academic, social, and communications skills to attempt to address these issues; and group-based experience in planning for and attempting to remedy the issues chosen for resolution. A systematic pedagogy would provide educators with an instructional approach designed to support group learning and problem solving in K-12 classrooms. At the same time it would provide students with the basis for conceptualizing an ecological approach to identifying factors contributing to social problems and move them to change structures rather than maintaining them through service. The second component, tools for improving academic learning (literacy, mathematics, social studies, and science), integrates service-learning squarely into the academic curriculum and into the social problem solving model that underlies service-learning. The third demonstrates to students, regardless of personal or class background, that civic action (i.e., the organized efforts of groups of citizens to improve social conditions) can solve social problems and change policies.

The cognitive, social, and civic benefits of this model are evident. But the approach introduces a number of challenges for educators as well as for students. First, action research for service-learning emphasizes social change rather than social service. The means of addressing social change range from reports and community education to advocacy with policy makers. Students are more than capable of engaging in these activities, even in the early elementary school years. However, to do so involves a critical shift on the part of educators: the shift from helping through service, to helping through critical analysis (e.g., why the service is needed in the first place), research and action. Students planning to help out at a local shelter, for example, might do so, but with the mission of finding out why some people are homeless and what can be done to prevent homelessness. Students wanting to improve conditions in their school library might approach the need for expansion by questioning why, for example, there are only books that date from the 1970s or why there are no books in their library for students whose first language is not English. Educators must first appreciate the importance of critical analysis and feel competent to pursue it; second, through practice, they must acquire or hone their skills to be able to assist students to do the same; and third, they must stand ready to support students critical of administrative, community or legislative policies and practices, if student critiques are informed by research and structured problem solving.

Action research for service-learning is an educational change strategy. As with other forms of project-based, group conducted service-learning, teachers must be prepared with the tools to engage in group, rather than individual, problem solving using cooperative education instructional methods. The approach calls for broad student input, and students may decide on a topic (such as suicidal ideation or sex at an early age) which is not supported by the administrative policies of a school or agency. Educators must be prepared to support student interest while at the same time recognizing the limitations policies pose to the effort and sharing them with students in such a way as to avoid undermining their newfound independence.

Action research for service-learning requires educators to be familiar with interactive social science research methods. Many of these methods are embedded in other curricula, and are because they are intuitive, they are not difficult to learn. However, it is important for students to learn to use these tools correctly. Educators need time to learn the approach and training to support proper implementation in the classroom, but it is difficult for many K-12 educators to find training and practice time, as well as the building support needed to learn a new curricular and instructional approach. Nevertheless, more and more stories of innovative teacher driven research and students' research on social issues are reaching the attention of the public. These stories reflect educators' recognition that

student driven research—whether basic or "applied" and intended for service—is appealing to students and can be integrated readily into existing curriculum.

Finally, the conduct of youth-led research with peers in school and community environments has ethical implications. One set of ethical considerations revolves around the use of research. Action research for service-learning solves this dilemma by virtue of its commitment to use of the research results for positive social change. A second has to do with how issues of informed consent should be handled when students are gathering information from minors. One way is to require students to bring signed parental consent forms if they wish to participate in youth-led survey or focus group research, where confidentiality might be an issue. This has the important benefit of educating students about the protection of human subjects. A second consistent with federal regulations regarding research in schools, and being discussed in various states, is to state that only required research calls for signed consent forms. Participation in student-led research is not required. A third is to request a waiver under CFR45 because the benefits of student-led research for the researchers and their peers outweigh any of the risks. Regardless, it is important for schools and agencies to establish a procedure for handling internal reviews of student projects to make sure that student participants' confidentiality is protected, and parents are informed. These issues are sure to be discussed further as the movement in support of student-led research for service grows.

FURTHERING THE SERVICE RESEARCH AGENDA

Research on service-learning is in the early stages of development, consisting of small-scale outcome studies focused on a handful of variables mainly related to complex problem solving, practical knowledge, and civic engagement. As Eyler and others point out, many methodological problems remain to be addressed as more researchers are challenged by the need to demonstrate effective scholastic as well as social and moral outcomes, and to identify in detail the conditions under which service-learning is effective in promoting both. A major problem flagged by most critics of service-learning research is the lack of clarity in operationalization of the intervention, (i.e., the service-learning program). This is largely because while implementation research rests on a clear association between intervention theory and practice, service-learning efforts are driven by practitioners whose theories of practice are implicit and inconsistent. A second problem, related to the first, is the disconnect between service-learning programs and academic achievement. This disconnect is associated with inconsistent program design and implementation on the one hand, and

the lack of refinement in connecting service-learning activities to specific academic disciplines and specific academic outcomes. Good evaluative research calls for clear theory, operationalized in the form of curricula which can be implemented in a relatively consistent manner across multiple sites and monitored for acceptability, fidelity, and related academic and social outcomes. In this paper, we have tried to outline an approach to service-learning which offers a standardized approach to service-learning curriculum in K-12 environments supported by critical cultural, social construction, and cooperative learning theories, and linked to academic, social and ethical/moral processes and outcomes. Further, we have tried to show how this approach relates to the mediating and outcome domains proposed by the *Learning in Deed* network as a model of school-based K-12 service-learning mediators and student outcomes. This approach has been evaluated for acceptability in various locations throughout the Northeastern United States (Connecticut, New York, Rhode Island) and, like other counterparts proposed by political scientists, educators and researchers, it should be tested using quasi-experimental, experimental, and longitudinal research designs combined with good process evaluation.

Service-learning is a creative enterprise. It is difficult to propose broad-based evaluations of school and community-based service-learning programs because creative educators often prefer not to utilize the kinds of scripted interventions that lend themselves to experimental design. The challenge for the field (comparable to the challenges faced by community-based prevention researchers) is to generate intervention "directives" or models that are sufficiently standardized so that the core elements of the intervention can be recognized, but the creativity that has given impetus to the field, especially in education, is not lost. One way to do this is to include educators as partners in the service-learning intervention research process. There is strong evidence for the utility of this partnership in the development and promotion of innovation, in ensuring honest feedback regarding acceptability and fidelity, and in ensuring needed collaboration in process and outcome evaluation. As school districts work to meet the challenges of educational testing, opportunities for partnerships in service-learning research on programs, such as action research for service-learning, that provide clear implementation guidance to educators and relate clearly to academic outcomes while engaging student interest in learning through service, should increase. Outcome measures are available. It remains for researchers and educators to meet the measurement challenge by agreeing to more standardized theory driven approaches, the training and supports required to implement them, and the rigorous research designs required to measure them.

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REFERENCES

Anderson, J. (1998). *Service-learning and teacher education.* ERIC Digest. Washington, DC: ERIC Clearinghouse in Teaching and Teacher Education.

Bearison D.J. (1992). New directions in studies of social interaction and cognitive growth. In F.C. Berger, PL & T. Luckman (1966). *The social construction of reality: A treatise in the sociology of knowledge.* Garden City, NY: Doubleday.

Becker, T.L., & Couto, R. (Eds.). (1996). *Teaching democracy by being democratic.* New York: Praeger.

Billig, S.H. (2000, May). Research on K-12 school-based service-learning: The evidence builds. *Phi Delta Kappan, 81*(9), 658–664.

Billig, S.H. (2001). *A model of school-based k-12 service-learning mediators and student outcomes.* Learning-in-Deed Website. ttp://www.learningindeed.org/research/slresearch/

Burns, L. (1998). Make sure it's service-learning, not just community service. *The Educational Digest, 64*(2), 38–41.

Bronfenbrenner, U. (1979). *The ecology of human development.* Cambridge, MA: Harvard University Press.

Calhoun, E.F., & Allen, L. (1994). *Results of schoolwide action research in the league of professional schools.* Paper presented at the Annual Meeting of the American Educational Research Association (New Orleans, LA, April 4–8,). ERIC Document # ED370969

Campbell, D.E. (2000, Sept.). Social capital and service-learning. *Political Science and Politics,* Web version.

C.A.R.T. (2001). *Compendium of Assessment and Research Tools.* Learning-In-Deed Website. http://rmcdenver.com

Center for Human Resources. (1999). *National evaluation of learn and serve America.* Waltham, MA: Brandeis University.

Claus, J., & Ogden, C. (Eds.). (1999). Service-learning for youth empowerment and social change. *Adolescent Cultures, School, and Society* (Vol. 5). New York: Peter Lang Publishing.

Conrad, D., & Hedin, D. (1977). Learning and teaching citizenship through participation. In J.P. Shaver (Ed.), *Building rationales for citizenship education,* (pp. 48–73). National Council for the Social Studies, Bulletin 52.

Conrad, D., & Hedin, D. (1991). School based community service: What we know from research and theory. *Phi Delta Kappan, 72*(10), 743–749.

Cummings, J. (1986). Empowering minority students: A framework for intervention. In J. Kretovics (Ed.), *Transforming urban education* (pp. 327–346). Boston: Allyn & Bacon.

Cushman, E. (1999). The public intellectual, service-learning and activist research. *College English, 61*(3), 328–336.

Damon, W. (1983). The nature of social-cognitive change in the developing child. In W.S. Overton (Ed.), *The relationship between social and cognitive development* (pp. 103–141). Hillsdale, NJ: Erlbaum.

Delli Carpini, M. X. (2000, Sept.). What should be learned through service-learning? *Political Science and Politics*, Web version.

Eyler, J. (2000). What do we most need to know about the impact of service-learning on student learning. *Michigan Journal of Community Service-Learning* (Special Issue).

Fordham, S., & Ogbu, J.U. (1986). Black students', school success: Coping with the "burden of 'acting white.'" *Urban Review, 18*(3), 176–206.

Freire, P. (1985). *The politics of education.* South Hadley, MA: Bergin & Garvey.

Freire, P. (1990). *Pedagogy of the oppressed.* New York: Continuum.

Freire, P. (1998). *Teachers as cultural workers: Letters to those who dare teach.* Boulder CO: Westview Press.

Freire, P., & Macedo, D.P. (1995). A dialogue: Culture, language, and race. *Harvard Educational Review, 65*, 377–402.

Furco, A. (1996). Service-learning: A balanced approach to experiential education. *Expanding Boundaries: Serving and Learning, 1*(1), 2–6.

Garman, B. (1995). *Civic education through service-learning.* ERIC Clearinghouse for Social Studies/Social Science Education. Bloomington, IN. *ERIC Digest*, Identifier: ED390720

Geltner, B.B. (1993). *Collaborative action research: A critical component in the preparation of effective leaders and learners.* Paper presented at the Annual Meeting of the University Council for Educational Administration (Houston, TX, October 29–31). ERIC Document #ED363971.

Gilligan, C. (1982). *In a different voice.* Cambridge, MA: Harvard University Press.

Giroux, H.A. (1981). Dialectics and the development of curriculum theory. *Ideology, culture, and the process of schooling* (pp. 113–126). Philadelphia PA: Temple University Press.

Giroux, H.A. (1981). Paulo Freire's approach to radical educational theory and practice. *Ideology, culture, and the process of schooling* (pp. 127–142). Philadelphia, PA: Temple University Press.

Giroux, H.A. (1983). *Theory and resistance in education: A pedagogy for the opposition.* Westport, CT: Bergin & Garvey.

Greenwood, D.J., & Levin, M. (1999). *Introduction to action research: Social research for social change.* Thousand Oaks, CA: Sage.

Hunter, S. (2000, September). The impact of service-learning on democratic and civic values. *Political Science and Politics*, Web version.

Jakar, V.S. (1993). Teacher as researcher: Outside the ivory tower. *English Teachers' Journal, 46*, 70–72.

Johnson D.W., Johnson, R.T., & Stanne, M.B. (2001). Cooperative learning methods: A meta-analysis. Minneapolis, MN: Cooperative Learning Center.

Johnson, D.W., Johnson, R., Dudley, B., & Acikgoz, K. (1991). *Peer mediation: Effects of conflict resolution training in elementary school students.* Minneapolis, MN: Cooperative Learning Center.

Johnson, D., Johnson, R.T., & Dudley, B. (1991). *Effects of peer mediation on elementary school students.* Minneapolis, MN: Cooperative Learning Center.

Masucci, M., & Renner, A. (2000). Reading the lives of others: The Winton Homes library project: A cultural studies analysis of critical service-learning for education. *The High School Jr., 94,* 36–47.

Markus, G.B. (1997). Community service-learning as practice in the democratic political arts. In R. Battistoni & W. Hudson (Eds.), *Experiencing citizenship: Concepts and models for service-learning in political science.* Washington, DC: American Association for Higher Education.

McQuillan, P.J. (1995). *"Knowing" and empowerment. Or student empowerment gone good.* http://www.radix.net/~reimann/enet/VC95/mcpa.html.

Nastasi, B., & Berg, M. (1999). Using ethnography to strengthen and evaluate intervention programs (Book 7). In J. Schensul & M.D. LeCompte (Eds.), *Ethnographer's toolkit* (pp. 1–5). Walnut Creek, CA: Altamira Press.

Nastasi, B.K., & DeZolt, D.M. (1994). *School interventions for children of alcoholics.* New York: Guilford.

Park, P. (1993). What is participatory research? A theoretical and methodological perspective. In P. Park, M. Brydon-Miller, B. Hall, & T. Jackson (Eds.), *Voices of change* (pp. 1–19). Westport, CT: Bergin & Garvey.

Porter Honnet, E., & Poulsen, S. J. (1989). *Principles of good practice for combining service and learning.* Racine, WI: Johnson Foundation.

Putnam, R.D. (2000, January). Bowling alone: America's declining social capital. *Journal of Democracy, 6,* 65–78. (DAS access)

Rogoff, B. (1990). *Apprenticeship in thinking: Cognitive development in social context.* New York: Oxford University Press.

Root, S.C. (1997). School based service: A review of research for teacher educators. In J. Erickson & J. Anderson (Eds.), *Learning with the community: Concepts and models for service-learning in teacher education* (pp. 42–72). Washington, DC: American Association for Higher Education.

Schensul, J. (1999). Community based risk prevention with urban youth. *School Psychology Review, 27*(2), 233–245. [Special issue on Mental Health Programming in Schools and Communities, B. Nastasi, ed.]

Schensul, J., & LeCompte, M. (1999). *The ethnographer's toolkit* (7 vols.). Walnut Creek, CA: Altamira Press.

Sick, P., & Shapiro, J.P. (1991). *Utilizing participatory evaluation in a public school setting: An assessment of teacher involvement in decision making.* Paper presented at the Annual Meeting of the American Educational Research Association (Chicago, IL, April 3–7, 1991). ERIC Document No. ED335771

Siegel, S., & Rockwell, V. (1993, September). Democratic education, student empowerment, and community service: Theory and practice. *Equity and Excellence in Education, 26,* 65–70.

Smith, J.E. (1983). *The spirit of American philosophy.* Albany: SUNY Press.

Trotter. R., & Schensul, J. (1998). Methods in applied anthropology. In H.R. Bernard (Ed.), *Handbook of ethnographic methods.* Walnut Creek, CA: Altamira Press.

Vygotsky, L.S. (1978). *Mind in society: The development of higher psychological processes.* M. Cole, V. John-Steiner, S. Scribner, & E. Souberman (Eds). Cambridge MA: Harvard University Press.

Weigert, K.A. (1998). Academic service-learning: Its meaning and relevance. In R.A. Rhoads & J.P.F. Howard (Eds.), *Academic service-learning: A pedagogy of action and reflection.* New Directions in Teaching and Learning Vol. 73. San Francisco: Jossey-Bass.

Wertsch, J.V. (1991). *Voices of the mind: A sociocultural approach to mediated action.* Cambridge, MA: Harvard University Press.

Wertsch, J.V., & Kanner, B.G. (1992). A sociocultural approach to intellectual development. In R. Sternberg & C. Berg (Eds), *Intellectual development* (pp. 328–349). Cambridge, MA: Cambridge University Press.

Part III

METHODOLOGICAL APPROACHES TO STUDYING SERVICE-LEARNING

CHAPTER 7

BEYOND SURVEYS

USING THE PROBLEM SOLVING INTERVIEW TO ASSESS THE IMPACT OF SERVICE-LEARNING ON UNDERSTANDING AND CRITICAL THINKING

Janet Eyler and Dwight E. Giles, Jr.

INTRODUCTION

Over the past decade there has been a dramatic increase in published research on the impact of service-learning on college students and a modest increase in studies that focus on the impact of this instructional approach on communities and institutions. As a result, we can have some confidence that service-learning leads to positive outcomes in personal development and in civic engagement and that it is well received by community partners and gaining support in colleges and universities (Eyler, Giles, Stenson, & Gray, 2001). There is even some very limited evidence that service-learning may lead to future community involvement (Astin, Sax, & Avalos, 1999; Beane, Turner, Jones, & Lipka, 1981). Evidence for academic or cognitive impact is less persuasive for several reasons. Data gathered has been weak. There has not been clear specification of academic outcomes expected through service-learning, and measures have

not been devised to assess these outcomes. Surveys, which do a fair job of capturing student attitudes about social engagement and personal characteristics like efficacy, are not as convincing when they rely on simple student reports that 'I have learned more' in service-learning classes. Grades are a more impressive measure because they presumably measure performance, but attempts to link them with service-learning experiences in college classes have been mixed. Although one experimental study (Markus, Howard, & King, 1993) shows improved class performance, attempts to replicate have not been successful (Berson & Younkin, 1996; Kendrick, 1996; Miller, 1994) or have not used the same assessment standards for students in service-learning and traditional classes (Balazadeh, 1996; Sugar & Livosky, 1988). There has been a need to show how service-learning might lead to improved academic performance and then to use measures that allow students to convincingly demonstrate this performance.

While there is no particular reason to think that service-learning will be a powerful way for students to amass factual information compared to other pedagogies, there are some learning outcomes that it is particularly well designed to achieve. Deep understanding of complex issues is enhanced by learning that takes place in complex settings, and transfer of learning is best achieved by helping students apply concepts repeatedly in real or realistic settings (Barron et al., 1998; Bransford & Vye, 1989; Bransford & Schwartz, 2000). Cognitive scientists, particularly those who have focused on situated cognition, have demonstrated that learning in these complex contexts bears a similarity to the kinds of learning that occurs naturally in the community (Resnick, 1987). Service-learning provides an opportunity to apply these principles to the learning process. And the kind of achievement they are best designed to bring about such as depth of understanding and practical understanding of how to bring about community change are not necessarily captured on standardized tests or grading methods designed to assess fact acquisition.

Critical thinking is also a capacity that seems ideally suited to enhancement through service-learning and indeed 71 percent of the faculty responding to surveys from Campus Compact about their motivations for choosing service-learning identify critical thinking as one of their key considerations (Campus Compact, 1999). The ability to analyze ill-structured problems (i.e., those without clear definitions or correct solutions [Voss, Greene, Post, & Penner, 1984] and to come up with well-considered solutions) entails advanced levels of cognitive development. Perry (1970) in his studies of college student development and more particularly the elaboration of adult intellectual development as post formal reasoning by King and Kitchener (1994) show the typical college student often does not have the capacity to analyze complex ill-structured issues and assess conflicting information. In other words, even college graduates may well be ill

equipped to be thoughtful and effective citizens (King, 1992). Reflective service-learning in which students have their assumptions challenged and need to work through conflicting points of view about difficult social issues is the kind of experience that encourages development of more advanced cognitive abilities. Assessing growth in reflective judgment capacity requires being able to observe the reasoning process students use in coming to their conclusions about controversial issues.

This study made an effort to begin to define the kinds of learning outcomes best suited to service-learning and to develop a process for measuring student performance that was consistent with these learning goals.

METHODS OF THE STUDY

The study was conducted as part of the FIPSE-sponsored National Comparing Models of Service-Learning research project. While many of the studies conducted during this project used survey methods and large national samples, this study used interviews to explore the ways in which students conceptualized social problems related to their service. It attempted to assess both depth of understanding of the issues and the ability of students to employ post formal reasoning skills (i.e., critical thinking) to these issues. It then tracked changes in both complexity of understanding and critical thinking over the course of a service-learning semester. The study attempted to determine if the quality of service-learning, more particularly the integration of service with learning through consistent and continuous reflection, would contribute to depth of understanding and critical thinking.

Choosing a Method for Assessing Problem Solving Performance

Early in the course of the research we conducted focus groups at several colleges with students who had been active in community service and service-learning in an attempt to ascertain what students felt the unique contributions of service-learning had been to their development. These students told us that because they were passionately engaged in worthwhile work that the service increased their commitment to social change and their understanding of both issues and the processes for community change in the 'real world.' While we asked students to evaluate these claims in survey studies, we knew that telling us was not enough. We needed students to show us that they had deeper understanding, improved critical thinking, and a more practical sense of community action strategy as a result of their service-learning experiences. While the focus groups yielded

rich, well-elaborated responses, they did not allow easy analysis of individual change (Schmiede, 1995). So our first impulse was to have students demonstrate this through responses to written questions about the issues they were addressing in their community experience.

There has been some successful research using open-ended, written responses to capture complex student learning. For example, Eyler and Halteman (1981) were able to assess the relatively more sophisticated political process understanding of legislative interns compared to college students studying the legislative process by traditional means through content analysis of responses to questions on a legislative strategy. Batchelder and Root (1994) had some success with classroom essays used to identify learning outcomes of service-learning. Each of these involved relatively small numbers of students who were engaged in classrooms with committed instructors willing to give time and importance to completing essay material. In the case of the Batchelder and Root study, the essays were built into the normal work of the course. Written essays or responses have some drawbacks however as a research tool: they do not allow follow up questions to encourage complete response, and they require adequate time and high motivation to complete full answers. This is particularly true in a pretest/posttest design where a second essay that is not integral to the course assignments must be completed at the end of the semester. There is frequently pressure to spend as little time as possible on generating data for researchers during this crowded period when instructors are trying to wrap up the class. Students also find repeating the same written task less interesting than it was the first time. Conrad and Hedin (1980), in their groundbreaking study of experiential pedagogies in high schools, found their essay responses unscorable on the more complex dimensions because of posttest 'fall off.' Having done a complete and careful job on the pretest essays, many students failed to complete, or gave cursory attention, to the essay part of their measures on the posttest. Since some of their scoring protocols called for counting the number of ideas generated, indifferent commitment on the posttest could make it appear that students were less capable of analysis after the semester-long experiential program than before. In the initial survey of 1500 students in the Comparing Models of Service-Learning project, a series of short essay responses were included in a large subset of the surveys, but proved unscorable for the same reasons. Many students had no time to complete that section of the survey and left it blank; those who did respond tended to give it very short shrift on the posttest. An occasional student even referred the reader to 'what I already wrote about this the first time.' Students reported in the survey that they had acquired a deeper understanding of subject matter, but the essay segments provided no demonstration of this.

This inadequacy in the essay format led to the development of intensive one-on-one interviews where we could assess issue understanding, ability to create practical political action strategies, and critical thinking. The interview that was developed invited students to analyze an ill-structured problem related to their service. In this interview, the student identified a problem area related to their service, discussed causes and possible solutions of the problem they had chosen and suggested practical strategies for addressing such problems in their community. To measure critical thinking, they also responded to questions that focused on how they arrived at their understanding of these issues and how they justified their position. These questions were derived from reflective judgment assessment developed by King and Kitchener (1994) but were adapted to the social issues appropriate to the service-learning experience. When identifying causes of a problem such as low achievement among some public school students, or homelessness or the continuing spread of the HIV epidemic, students were asked questions about the causes and possible solutions of the problem, how they would address such a problem if they moved into a new community, and also how they would develop and justify their position when experts disagreed about causes and solutions. The questions about how one 'knows' and evaluates information provided data for the critical thinking analysis based on reflective judgment theory.

Interviews, like essays, present problems for researchers. They require training of interviewers and are very expensive and time consuming to schedule and administer. Transcribing is an expensive process, and quality of the recording can make the process even more difficult. The coding process also involves thoughtful design, training of coders, and is time consuming as well. In one point in this study, hundreds of dollars had to be allocated to electronically enhance one set of interviews to make it intelligible to the transcriber. These difficulties are offset by being able to push students to full explanations of the points they are making, by allowing students to display their reasoning in their own words, and by the resulting richness of the data (Patton, 1990). This is an important consideration because students are not always aware of changes in their own thinking. Although others have reported some correlation between student reports of critical thinking or learning and other measures (Vogelgesang & Astin, 2000), we found students who seemed unaware of changes in their understanding. In an earlier project in which we interviewed students, several reported to us that 'it wasn't until I reviewed my journals that I realized how much my thinking had changed.' In the interview study discussed here, one student, a bit reluctant to take time for the post interview, said she had not changed much; then challenged the interviewer at the end of the session with "Well, have I changed?" When the interviewer noted that she had not talked much about organizational politics on the pre-interview,

she suddenly lit up and began talking about what she had learned about the politics of community organizations. She was genuinely surprised at how much her thinking had changed over the course of the semester. Her flat self-report, 'I haven't changed much,' was in error. In the interviews, students were able to demonstrate rather than just tell us about, the depth of their understanding and their critical thinking abilities. Students were also quite engaged in the interview process. While drafting an essay is an onerous school task for many students, talking about their experience with an interested interviewer was often viewed as a pleasant continuation of their service-learning experience. Several students mentioned after their interviews that they found the reflection session useful, and one student greeted the interviewer with the remark that he had been 'thinking about that question you asked me in January all semester.'

GATHERING THE INTERVIEW DATA

Sixty-six students were selected from service-learning classes in seven colleges and universities. Improved problem solving and critical thinking was expected from challenging well-integrated service-learning experiences and not from the simple experience of service alone; therefore, two types of service-learning programs were selected. The first had service as an option with little day-to-day integration of the service into ongoing academic discussions and activities; for example, in a psychology class, students had the option of substituting a tutoring assignment for a paper. In these classes, several students who chose the service option and those who did not were interviewed. The second type of class involved full integration of the service into the work of the class. For example, in one such class the entire group studied public policies related to HIV in the United States and participated in service with a local AIDS outreach organization. Students were interviewed at the beginning and end of the semester for about 50 minutes each time. These interviews were then transcribed, and numbers were assigned so that no evidence of particular students' name or program was evident.

ANALYZING THE INTERVIEWS

Scorers trained in the analysis process but who had not participated in the study and were not familiar with the service-learning sites did analysis of interviews. The transcribed interviews were not identified by location or type of service-learning. Different scorers worked with the issue understanding and the critical thinking aspects of the analysis. While internal

clues in the transcripts made pre- and post-interviews impossible to disguise, the scoring was done at the completion of the project, and all interviews were shuffled for scoring so that pre- and post-interviews of the same participant were not scored sequentially. Data were analyzed using hierarchical multiple regressions with controls for age, gender, previous community service, and the pretest measures.

Assessing Deeper Understanding and Practical Action

Several variables were developed to capture the complexity of student thinking about problems and their strategies for action. These included problem finding, causal and solution complexity, locus of problem and solution, personal action strategy and application of knowledge in the analysis. Scoring protocols were designed using a primary trait analysis approach (Lloyd-Jones, 1977) in which target concepts were identified and levels of achievement specified. Although this approach was originally created to assess student writing, it works equally well in judging the quality of student reasoning in interview format. The scoring protocols were developed through use of pilot interviews and essays, which allowed refinement of the interview itself as well as the scoring process. For example, locus refers to the tendency to ascribe problems or devise solutions in terms of individual behavior of those experiencing the problem or to place them in a broader systemic context. The scoring protocol for solution locus included these categories:

0. No solution locus.
1. Solution focused on individual mental state or behavior/remediation of individual failure/solution to meet immediate needs of individuals.
2. Solution involves correcting systems failure/addressing root causes of problems.
3. Combined individual/systemic focus of solutions/well elaborated.
4. Process focus with emphasis on need to assess problem and explore multiple solutions within broader systemic context.

In analyzing causal complexity we were looking for both the variety of possible causes that students could identify and their ability to elaborate on these causes and link them to each other. The scoring protocol included these categories:

0. No causal analysis.
1. Low: simple/no context/one cause noted/low elaboration of reasons for problem.

2. Medium: extensive elaboration of the single cause/more than one cause noted but with moderate elaboration.
3. High; multiple causes well elaborated/situated in context/multiple stakeholders noted/integrated—causes linked.

In assessing knowledge application we were looking for evidence that the student was knowledgeable about the issue and could draw on a variety of sources of information including experiences at the service site. This was the variable developed to assess the extent to which students could spontaneously link their academic study with their service-related issue. No specific question was asked that cued students to draw from their classroom study; the coder looked for evidence throughout the interview transcript. The categories included:

0. No information about issue supplied.
1. Low: little specific information about social issue discussed.
2. Medium: some concrete grasp of issue/some specific issue information.
3. Medium-high: considerable information about issue/reference to resources/mentions information or reading associated with class.
4. High: very detailed and specific issue information and multiple resources about the issue.

All of the variables proved scorable with the exception of 'problem finding.' One characteristic of expert problem solvers is a tendency to analyze a problem before immediately jumping to solutions. We were looking for students who asked questions or described processes for defining the problem and gathering information before suggesting solutions. In order to test this, it is important that interviewers be extremely non-directive. As soon as the interviewer begins probes such as 'tell us about what causes this problem?' the subject has been cued and the response shaped. This is acceptable if the goal is to explore the quality of their capacity for causal analysis; it is not acceptable if the goal is to determine their propensity to approach a new problem in a particular way. Although we had conducted interviewer training, the ambiguity of the initial question, which asked them to discuss the first steps they would take if called upon to lead a community group in tackling a problem, was hard for interviewers to maintain. There was not the consistency among interviewers on this question that there was on the others. When students were confused and asked for clarification, some interviewers provided cueing responses. The question itself also seemed to cue people to discuss practical strategy and thus leap to solutions. This is a difficult aspect of problem solving to capture, and our approach was not up to the task. The other questions worked well, and with the probes, we

were able to obtain full rich answers and elaboration of the reasoning of participants.

Assessing Critical Thinking

Critical thinking was measured using a seven-point scoring protocol based on the stages of Reflective Judgment developed by King and Kitchener (1994). Lynch (1996), who developed the scoring process for this project, has done extensive work in applying reflective judgment theory to instruction and assessment. Classic reflective judgment interview probes were embedded in the interview (e.g., "Why do people have different points of view about the factors that contribute to this problem?" and "How do you decide which view is right when experts disagree?") These probes allowed us to determine the participants' epistemological assumptions (i.e., their theories of knowing) and thus their ability to manage ambiguous perspectives and information and arrive at warranted conclusions.

Findings

We examined the impact of age, gender, and previous service on the pretest scores of participants, the impact of service-learning versus no service over the course of the semester, and the impact of integrated service-learning versus service-learning that is an 'add on' and not well integrated into the academic study. Our findings suggest that service-learning can have a significant impact on the quality of issue understanding, on planning practical political strategies, and on the cognitive development central to critical thinking if it is a well-designed, high quality experience.

Age Affects Pretest Scores of Critical Thinking

As might be expected with a developmental construct, age was the only significant predictor for this initial critical thinking score. Neither gender nor previous service was a predictor. The average pretest critical thinking/problem solving score for all 66 of the interviewed students was 4.08; this is consistent with what King and Kitchener (1994) have found in their studies of reflective judgment using a similar measure. Student scores ranged from 3 to 5 with most at 4. Students reasoning at this level have the ability to recognize the ill-structured nature of a social problem, but will have some difficulty in identifying the complexities of alternative perspectives and have

considerable difficulty forming well-founded resolutions for these conflicts and confidently justifying their choices.

High Quality, Well-Integrated Service-Learning Affects Issue Understanding, Practical Action Planning, and Critical Thinking

When we used integrated service-learning as a predictor, we found that the quality of the service-learning experience had a significant impact on increases in scores on all the dimensions of depth of understanding tested including causal and solution complexity and problem and solution locus and both application of knowledge and practical strategic planning. The scores for students in the integrated experiences generally increased dramatically over the course of the semester. These means are shown in Tables 1 and 2. In the multiple regression analysis integrated service-learning was a significant predictor of change on all of the understanding variables studied and the betas ranged from .27 to .51.

Table 1. Comparing Mean Issue Understanding Scores Before and After Service-Learning: Problem-Solving Interviews

	Causal Complexity		*Solution Complexity*		*Locus of Problem*		*Locus of Solution*	
	Pre	*Post*	*Pre*	*Post*	*Pre*	*Post*	*Pre*	*Post*
Control Group-No Service	1.75	2.00	1.82	1.83	1.83	2.00	1.90	1.92
Low Integration Service-Learning	2.00	2.37	1.94	2.13	1.94	2.19	2.25	2.56
High Integration Service-Learning	2.15	2.52	1.96	2.63	2.26	2.85	2.37	3.15

Note: Scale scores for complexity run from 0–3, for Locus 0–4.

Because of the strong theoretical link between the experiences students undergo in service-learning and cognitive development and based on pilot work with the construct, we thought that service-learning might have an effect on critical thinking measured as increased reflective judgement. However, we recognized that significant changes would not be likely over the course of a single semester unless the experiences were particularly well designed to challenge students. We found that when we combined all the various forms of service-learning experience, that service associated with a class did not produce greater development on the critical thinking measure than occurred among the student controls. Most of the students

did not show much change on the critical thinking measure. When we examined those who did show change however, we found that most were in the classes that experienced well-integrated service-learning. These means are illustrated in Table 2. In the multiple regression analysis, integration of service-learning was a significant predictor of change with a beta of .27.

Table 2. Comparing Mean Practical Application and Critical Thinking Scores Before and After Service-Learning: Problem Solving Interviews

	Knowledge Application		*Personal PolitStrategy*		*Critical Thinking*	
	Pre	*Post*	*Pre*	*Post*	*Pre*	*Post*
Control Group-No Service	1.92	2.08	2.08	1.75	3.96	3.94
Low Integration Service-Learning	2.00	2.13	2.19	2.19	4.07	4.08
High Integration Service-Learning	2.19	2.70	2.12	2.96	4.16	4.41

Application and Strategy Scales run from 0–4; Critical Thinking Scale runs from 0–7.

Students in classes where service is not tightly linked to the course of study, are still often quite pleased with their experience, and there is evidence that service-learning contributes to many valued outcomes for students other than critical thinking (Eyler & Giles, 1999). As others have shown (Astin & Sax , 1998; Vogelgesang & Astin, 2000), service—even without the link to the academic program—can be linked to positive gains during the college years. But where the goal is increased critical thinking ability, frequent opportunities for challenging reflection are important in theory, and this appears to be supported in practice. Students in our study who showed change over the course of a semester were those in classes where reflection was intense and frequent and tightly linked to the service experience. Students need high levels of critical thinking ability to address social issues effectively, and the processes that lead to cognitive development are very similar to those associated with a well-designed service-learning experience. When we help students reflect on the complexities of ill-structured problems and bring their experiences to bear on these puzzles, we help them move toward the ability to make well-reasoned decisions in the face of doubt.

CONCLUSION

This study demonstrated that the quality of service-learning makes a difference when we measure the kinds of outcomes that are most logical learning outcomes of service-learning. Survey research does not allow us to capture complex thinking about social issues or to assess the quality of critical thinking about those issues. Essays, while allowing students to demonstrate the range of their thinking, do not allow us to probe for elaboration and may not adequately capture the student's best work. Interviews are interesting and challenging for students and provide the rich data necessary to accurately assess these outcomes. The fact that we were able to measure complex learning outcomes of quality service-learning using these methods when many previous studies have not found a learning impact suggests it may be fruitful for the field to devote attention to clearly identifying the kinds of student performance that should be enhanced by service-learning. Identifying goals for performance and then devising methods that allow students to demonstrate rather than simply report their learning may allow us to begin to refine the specific service-learning experiences including reflection activities that lead to improved student learning.

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REFERENCES

Astin, A.W., & Sax, L. (1998). How undergraduates are affected by service participation. *Journal of College Student Development, (39)*3, 251–263.

Astin, A.W., Sax, L.J., & Avalos, J. (1999). Long term effects of volunteerism during the undergraduate years. *Review of Higher Education.*

Balazadah, N. (1996). *Service-learning and the sociological imagination: Approach and assessment.* Paper presented at the National Historically Black Colleges and Universities Faculty Development Symposium, Memphis TN.

Barron, B.J.S., Schwartz, D.L.,Vye, N.J., Moore, A.,Petrosino, A., Zech, L., Bransford, J.D., & the Cognition and Technology Group at Vanderbilt. (1998). Doing with understanding: Lessons from research on problem and project-based learning. *The Journal of the Learning Sciences,* 7(3 & 4), 271–311.

Batchelder, T.H., & Root, S. (1994). Effects of an undergraduate program to integrate academic learning and service: Cognitive, pro-social cognitive, and identity outcomes. *Journal of Adolescence, 17,* 341–356.

Beane, J., Turner, J., Jones, D., & Lipka, R. (1981). Long-term effects of community service programs. *Curriculum Inquiry, 11,* 143–155.

Berson, J.S., & Younkin, W.F. (1998). *Doing well by doing good: A study of the effects of a service-learning experience on student success.* Paper presented at the American Society for Higher Education, Miami, FL.

Bransford, J.D., & Schwartz, D.L. (2000). Rethinking transfer: A simple proposal with multiple implications. *Review of Research in Education, 24.*

Bransford, J.D., & Vye, N.J. (1989). A perspective on cognitive research and its implications for instruction. In L. Resnick & L.E. Klopfer (Eds.), *Toward the thinking curriculum: Current cognitive research* (pp. 173–205). Alexandria, VA: Association for Supervision and Curriculum Development.

Campus Compact. (1999). Faculty Survey.

Conrad, D., & Hedin, D. (1980). *Executive summary of the final report of the experiential education evaluation project.* Center for Youth Development and Research, University of Minnesota.

Eyler, J., & Giles, D.E. Jr. (1999). *Where's the learning in service-learning?* San Francisco: Jossey-Bass.

Eyler, J., Giles, D.E. Jr., Stenson, C., & Gray, C. (2001). *At a glance: Summary and annotated bibliography of recent service-learning research in higher education* (3rd ed.). Minneapolis, MN: Learn & Serve America National Service-Learning Clearinghouse.

Gray, M.J., Ondaatje, E.H., Fricker, R., Geschwind, S., Goldman, C.A., Kaganoff, T., Robyn, A., Sundt, M., Vogelgesang, L., & Klein, S.P. (1998). *Coupling service and learning in higher education: The final report of the evaluation of the learn and serve america, higher education program.* San Francisco: Rand.

Kendrick, J.R. (1996). Outcomes of service-learning in an introduction to sociology course. *Michigan Journal of Community Service Learning, 2,* 72–81.

King, P. (1992). How do we know? Why do we believe? *Liberal Education, 78*(1), 2–9.

King, P., & Kitchener, K. (1994). *Developing reflective judgment.* San Francisco: Jossey-Bass.

Lynch, C.L. (1996). Facilitating and assessing unstructured problem solving. *Journal of College Reading and Learning, 27,* 16–27.

Markus, G.B., Howard, J., & King, D. (1993). Integrating community service and classroom instruction enhances learning: Results from an experiment. *Educational Evaluation and Policy Analysis, 15*(4), 410–419.

Miller, J. (1994). Linking traditional and service-learning courses: Outcome evaluation using two pedagogically distinct models. *Michigan Journal of Community Service Learning, 1,* 29–36.

Perry, W.H. (1970). *Forms of intellectual and ethical development in the college years.* New York: Holt Rinehart & Winston.

Resnick, L. (1987). The 1987 presidential address: Learning in school and out. *Educational Researcher, 16*(9), 13–20.

Schmiede, A. (1995). Using focus groups in service-learning: Implications for practice and research. *Michigan Journal of Community Service Learning, 2,* 63–71.

Sugar, J., & Livosky, M. (1988). Enriching child psychology classes with a preschool journal option. *Teaching of Psychology, 15*(2), 93–95.

Vogelgesang, L.J., & Astin, A. W. (2000). Comparing the effects of community service and service-learning. *Michigan Journal of Community Service Learning, 7*, 25–34.

Voss, J., Greene, T., Post, T., & Penner, B. (1984). Problem solving skills in the social sciences. In G.H. Bowers (Ed.), *The psychology of learning and motivation: Advances in research theory* (Vol. 17, pp. 165–213). New York: Academic Press.

CHAPTER 8

METHODOLOGICAL CHALLENGES AND POTENTIAL SOLUTIONS FOR THE INCORPORATION OF SOUND COMMUNITY-BASED RESEARCH INTO SERVICE-LEARNING

Luciana Laganà and Maureen S. Rubin

How do the young prepare to meet the old? The same way the old prepare to meet the young: with a little condescension; with low expectations of the other's rationality; and with the knowledge that the other will find what they say hard to understand...
—Zaide Smith (White Teeth)

INTRODUCTION

Service-learning has the potential to engage faculty in scholarly research by activating discipline-based societal inquiry and activism (Sherman & Torbert, 2000). It also provides a venue through which faculty can conduct research focusing on sociopolitical action that seeks to improve conditions in their local communities. Moreover, service-learning can complement conceptual academic material by having students apply what they learn in

class to the challenges of community-based interventions, while reducing their possible negative biases about unfamiliar community populations.

A course development model around which to structure service-learning classes, such as the one developed by Maureen Rubin (2001), can provide a framework for the exploration of the methodological issues that surround the use of service-learning for community-based research. The seven steps of Rubin's course development model are: (1) Defining student learning outcomes, (2) Defining faculty members' personal scholarship outcomes, (3) Planning community collaboration, (4) Designing the course, (5) Arranging logistics and creating forms, (6) Planning exercises to help students reflect, analyze, and deliver, and (7) Performing assessment and evaluation of and among all critical audiences. This model assembles and organizes many of the elements commonly considered essential to the development and implementation of a comprehensive and successful university-based service-learning program (for further information on these elements, the reader is referred to Bringle & Hatcher, 1995; Driscoll et al., 1998; Eyler & Giles, 1999; Eyler, Giles, & Schmiede, 1996; Kellett & Goldstein, 1999).

To shift the focus of discussion from implementation of course design to the methodological issues related to incorporating community-based research into service-learning, we have created a new model that modifies the aforementioned one to cover important service-learning research issues. The model proposed herein is based on the following steps for implementation of service-learning research: (1) Define preliminary research objectives and operationalize the research variables of interest, (2) Plan community collaboration and select a research sample, (3) Design the course and its service-learning research component, (4) Guide students to conduct the community intervention, reflect on their experience and create a "deliverable" (i.e., a product that is donated to community partners for its future application), and (5) Perform baseline and post-community intervention assessment and evaluation.

This chapter applies some of the fundamentals of service-learning course development to the design and implementation of high-quality community-based research, offering a discussion of the possible methodological challenges relative to each step of the new proposed model, as well as outlining potential solutions for addressing such research challenges. Being sensitive to methodological caveats at each of these steps will provide the opportunity for faculty to successfully conduct several types of investigations involving various target populations that may include students, faculty members, the university, the community-based organizations where students serve, and/or the clients of these organizations. Due to space limitations, this discussion is not intended to be comprehensive, as it refers to only some of the methodological challenges encountered in service-learn-

ing research. Our primary audience is professors who plan to enhance the quality of life of their targeted community populations while conducting research with a health promotion or mental health focus involving their students and older adults (who are the community targets of the service-learning intervention). Nonetheless, many of the issues discussed herein apply to the planning and implementation of all community-based research that utilizes service-learning.

RATIONALE FOR INCORPORATING COMMUNITY-BASED RESEARCH INTO SERVICE-LEARNING

Even though an extensive commitment of time and energy is required of faculty members who wish to incorporate a community-based research component within their service-learning classes, professors should seriously consider doing so for many reasons. First, one incentive is that community-based research activities provide opportunities for faculty to make connections between their students' service-learning experiences and their own scholarly work. This opportunity could decrease the reluctance seen among some faculty who perceive service-learning as requiring extra time and effort, but having few tangible rewards in terms of their retention, tenure, and promotion. Diamond (1999), Driscoll and Lynton (1999), and Gray and Diamond (1994) are among those who have investigated and advocated the need for universities to support a broader vision of scholarship that recognizes faculty achievements related to the university's outreach, community service, service-learning, and professional service missions. In their view, this scholarship of engagement entails not only the discovery and integration of knowledge, but its application and dissemination.

Second, even if professors' institutions do not recognize the scholarship of engagement for its own intrinsic value, service-learning research can also lead to traditional publication opportunities. The dissemination of the findings garnered from community-based, service-learning research projects can increase the body of knowledge within the faculty members' field, providing related opportunities for external recognition within professors' disciplinary areas. Third, conducting successful service-learning research would further validate the importance of structuring meaningful community service opportunities that complement the academic knowledge offered to students in more traditional classes. Fourth, the projects in question can expose students to community-based research and thus increase their interest in further, independent research pursuits. Finally, service-learning research can validate the importance of utilizing service-learning as an effective anti-prejudice tool (O'Grady, 2000), when it is structured to take into account the various facets of complex multigenera-

tional and multicultural community environments, as demonstrated by the service-learning research project discussed in this chapter.

To incorporate a research component into service-learning following the five steps of the proposed research model, research-oriented professors should identify all the target research populations, the intervention needed in the community, the methodological challenges that are posed, as well as possible ways to circumvent as many of these challenges as possible. Generally, research conducted within the context of service-learning falls into two broad categories: discipline-based research and pedagogical research. Traditional discipline-based research can use service-learning classes to advance the knowledge of specific fields through the use of the discipline's research methodologies. For instance, professors can work with students to gather data for testing theoretical concepts within the context of the targeted community. Conversely, service-learning classes can be a laboratory for pedagogical research that tests the value of service-learning as a teaching and learning strategy. Community-based investigations can also combine both of these types of research.

Unfortunately, research-oriented professors may encounter several obstacles when conducting either type of service-learning research. Alleviating these problems can become easier if research methods, tailored to address the sources of such difficulties, are employed. In the case of Laganà's service-learning research endeavor, establishing and conducting her gerontology research project (described in the next section) involved negotiations with several community partners, development of a preliminary computer and Internet training manual for use with older adults, and creation of a comprehensive battery of questionnaires to conduct pre- and post-community intervention assessment of the target research participants in this study. It also required making all of the decisions concerning the issues and responsibilities outlined in the proposed model. The results of such an innovative endeavor, however, more than justify the extra workload that this research project entailed. To provide a framework for our discussion, the following paragraphs describe the service-learning course and its methodological challenges, which will be addressed as they relate to each step of our model.

A BRIEF DESCRIPTION OF THE GERONTOLOGY SERVICE-LEARNING COURSE

The "Introduction to Gerontology" class was taught by Laganà as an upper division General Education course, with an enrollment of 100 students in two sessions in the Fall 2000 semester. In Spring 2001, the class was modified to include a community-based, service-learning research component

and was attended by more than 50 students in one session. This course provided knowledge and understanding of psychological, social, historical, political, and economic aspects of the gerontology field. Its new service-learning component was a pilot community outreach and education project that combined theoretical training with hands-on experience, as students were asked to teach institutionalized, older adults unfamiliar with computer technology how to use computers and the Internet. This endeavor gave students an opportunity to learn, collaborate with peers, and exercise civic responsibility (Erhlich, 1997), while educating older adults on Internet use and, therefore, giving them a valuable communication and social tool. It was a timely project, as the Internet has become an important part of everyday life, and seniors are generally willing and able to use computers and the Internet, although they have more usability problems than their younger counterparts (Czaja & Lee, 2001). According to Morrell, Mayhorn, and Bennett (2000), lack of access to a computer and lack of knowledge about the World Wide Web are the two main predictors for not using this technology for people over the age of 40, with old-old adults (75–92 years-old) having the least interest in using the Web compared to middle-aged (40–64) and young-old adults (65–74 years-old).

Regarding student learning outcomes, the general learning objectives of this gerontology class included students' mastery of complex theoretical and applied topics, which were assessed through two non-cumulative tests (each counting for 33 percent of the grade). Furthermore, to extend students' learning beyond the classroom, the course included a service-learning component that applied theory to practice by asking students to train cognitively high-functioning seniors on how to use computers and navigate the Internet for many purposes to be described later in our chapter. To this end, 34 percent of the students' grades was based on their service-learning research work, which originally required them to conduct multiple assessments on, and work with, two seniors at a retirement home (one assigned to the experimental training condition and one to the control, no-training condition) in the capacity of "Internet personal trainers." Training procedures were outlined in a preliminary training manual created by Laganà. Students were required to dedicate a minimum of 20 hours to this endeavor. Additional grade factors included the quality of students' diaries and collectively written Internet manuals. As will be discussed in Step Three of the model, the students' service-learning research requirements were modified later, based on the limitations implicit to the characteristics of the initial pool of elderly research participants.

METHODOLOGICAL CHALLENGES AND POTENTIAL SOLUTIONS RELATED TO EACH STEP OF THE PROPOSED SERVICE-LEARNING RESEARCH MODEL

It is possible to integrate research agendas within each step of the proposed model. Although not necessarily in a linear fashion, this new model should be used as a framework for the organization of a sequence of critical decisions for the development and implementation of sound community-based research as part of a service-learning class. As previously mentioned, many populations, including students, faculty members, the university, the community-based organization and its clients, can be investigated through service-learning research. The gerontology study in question selected two of these potential pools of research participants: the university students and the clients of community-based organizations serving the elderly. We encourage interested professors to target all types of populations, as service-learning has a large impact on everyone involved at all levels of its implementation.

The following methodological recommendations refer specifically to the service-learning investigation in progress titled "Elderly on the Internet" that targets seniors' possible reluctance toward, and usability problems with, the computer and the Internet. Many of the issues discussed herein are commonly faced in research studies that do not have a service-learning component, especially if they are conducted in a community setting rather than a research laboratory. Moreover, the complex nature of service-learning research creates additional methodological obstacles that are often specific to the community partners and their clients. Our discussion aims at enhancing the possibility of reaching the ambitious goal of conducting sound service-learning research in spite of these challenges. In addition to research obstacles specific to service-learning partners and their clients, student-related impediments (not addressed herein due to space limitations) can include limited motivation, self-efficacy, and self-awareness. If students are not truly committed to the service-learning endeavor, their research will likely not be of scientific value. Fortunately, this was not a problem in the class in question, as students were very enthusiastic about participating in this innovative project.

Step One: Define Preliminary Research Objectives and Operationalize the Research Variables of Interest

Based on the specific topic and content of the service-learning class, general research goals should be formulated by professors, with the understanding that these goals might change based on the realities of the com-

munity partners and, in particular, on the characteristics of the service-learning client population. In the case of the gerontology class, as a function of engaging students and seniors in the service-learning training experience (the obvious independent variable), Laganà set out to make positive changes in the dependent variables (i.e., students' attitudes toward older adults wanting to learn to use computers and the Internet, older trainees' self-efficacy regarding the use of this technology, their attitudes toward the use of computers and the Internet, and their ability to use the Internet). These positive changes were hypothesized to take place as a result of becoming involved in our community-based intervention.

Selected student learning outcomes can become variables of inquiry to be targeted in service-learning research. In a traditional lecture/discussion class, a typical learning objective would be "to attain an understanding of course material, theory and application" (Rubin, 2001). In service-learning classes, professors can create additional learning objectives beyond those usually set. Depending on the discipline and individual goals, additional student learning outcomes could comprise the following: improving community awareness, involvement with the community, commitment to service, career development, self-awareness, sensitivity to diversity, sense of ownership, communication skills, life skills, morality and character, critical thinking and analysis, and valuing the pedagogy of multiple teachers (Driscoll et al., 1998). Other potential outcome measures entail enhancing students' grade point average, self-efficacy, self-rated leadership ability, and plans to participate in service after college (Astin, Vogelgesang, Ikeda, & Yee, 2000).

Numerous student learning outcomes can be identified in relation to the gerontology class in question, and each of them could support a viable research project. Possible research objectives could measure the extent to which students: (a) establish positive attitudinal changes in their perception of seniors' ability to learn to use computers and the Internet, (b) gain sensitivity toward older adults' unique attitudinal and behavioral characteristics, (c) enhance their self-esteem, (d) gain basic computer and Internet knowledge (necessary before they train older adults), (e) apply course lessons to a challenging retirement home or related setting, (f) enhance their communication and problem solving skills, (g) increase their understanding of civic responsibility, and (h) increase long-term practical experience with civic responsibility (either in general, or with the community population in question). These research objectives must be operationalized to be included in the service-learning research component of the class, testing students quantitatively and/or qualitatively on such variables to track changes over time.

Since the effects of the service-learning experience are often confounded with those of merely attending and studying for the gerontology

class, most of the aforementioned learning outcomes were not investigated in our service-learning research project. For instance, we did not pre- and post-test students on possible ageist attitudes [objective b], since this variable may be affected by merely taking a gerontology class without engaging in a related service-learning community-based project. Similarly, objective(c) [enhance students' self-esteem] was not included in the learning outcomes under investigation, as significant changes in this variable may require more than one semester of service-learning experience, and the same holds true for many of the other objectives.

It is important to focus service-learning research efforts on a few critical variables, and then possibly explore other factors in specifically-designed, further service-learning research projects. The probable influence of class material and our limited time frame led us to select one student learning outcome (i.e., variable a, establishing positive attitudinal changes in students' perceptions of seniors' ability to learn to use computers and the Internet). This objective was selected because it may or may not be accomplished as a direct result of the students' service-learning experience and was intentionally not addressed in the lectures and class discussions. Laganà operationalized this variable by creating a Likert scale to track changes in students' perceptions of older adults' use of computers and the Internet. Progress toward this research goal could be further ascertained by reviewing students' diaries, which may become part of the post-hoc data analyses, as they are an interesting qualitative source of information on the process behind the reasons for students' attitudinal changes on this issue.

We also established research objectives relative to our service-learning clients. Specifically, at the end of the computer and Internet training, seniors were hypothesized to: (1) report significantly more positive attitudes toward using computers and the Internet, (2) send an e-mail independently to the graduate student in charge of collecting data on this topic, and (3) report significant positive changes in their perceived computer self-efficacy by the end of the training. To operationalize these variables, Laganà developed an original Likert scale to assess seniors' attitudes toward their use of computers and the Internet, designed a hands-on assignment to be completed by the elderly once they finished their training (the aforementioned e-mail task), and adapted an existing computer self-efficacy scale originally designed for college students. It should be noted that assessment tools would not always be available for specific service-learning populations, especially if the latter are research targets usually neglected in the literature. Faculty should take this into account prior to starting their service-learning research, making sure that they can gain access to, or independently develop, the assessment tools needed to operationalize their variables of interest, as these instruments are necessary for the collection of sound research data.

Step Two: Plan Community Collaboration and Select a Research Sample

After professors define initial research objectives and the corresponding operational variables to test such objectives, at least one community partner, who is able to collaborate with the students and the faculty member to accomplish these goals, needs to be selected. Service-learning requires a true collaboration that celebrates and fosters the roles and responsibilities of the community partner as a co-educator, since in the best service-learning experiences, students learn as much from personnel at their community-based organization as they do from professors. Site selection, therefore, is critical. Faculty members are urged to contact a few potential partners (perhaps with the help of the campus service-learning or volunteer office, a local United Way, or politician) and to briefly describe ideas for collaboration. It is important to plan guided tours of the sites and meet key personnel, especially those who will supervise the service-learning students. A face-to-face, joint curriculum design session at the community site should then occur, to define both the course and the related service-learning research project, as well as allow professors to directly experience and understand the environment in which students will function. During that time, faculty should make sure that agency personnel understand what service-learning is and how service-learning differs from usual volunteerism, as students are coming to the agency to learn about their community clients, implement needed interventions, and conduct research, not just to provide service.

Professors must also understand the needs and limitations of the community agencies in question. These organizations have a job to do and have clients who rely on them. Since such agencies are often understaffed and underfunded, they need students to be part of the solution, not mere observers, and certainly not part of the problem. Early in the collaboration, faculty members should present their research objectives to potential community partners, who in turn should discuss whether their clients would likely be able to participate in the research study, and realistically assess whether the research objectives could indeed be achieved once the community intervention is ready to be delivered. Hopefully, a contract outlining these decisions and related mutual responsibilities will result from this meeting.

In our case, we explained to our community partners that the older adults involved in our project would have received numerous benefits from it, such as learning to communicate with family members through e-mail, interacting with people of all ages and backgrounds in Internet chat rooms, and exploring the Web and its world-wide resources, including information relative to their own physical conditions or other aspects of

their lives. We also pointed out that the ability to navigate cyberspace could serve a variety of socialization and educational roles, while possibly reducing older adults' loneliness and isolation.

During the joint design session of a service-learning project, it is possible to detect initial uncooperative attitudes held by community partners' staff. Often, these attitudes relate to a lack of trust in the professionalism and preparation of students who, indeed, are usually inexperienced in dealing with client populations. Additionally, community partners may have a disinterest in community-based research in general. Prior to starting service-learning research, professors must skillfully address these issues, to ensure that everyone involved is dedicated to the success of all the aspects of the project and values the utility of its research component.

If agency staff collaboration with professors is problematic, the hesitation of the staff should be systematically discussed and addressed. Consequently, it is important to develop creative strategies for encouraging agency staff to collaborate with academic institutions in service-learning research. Professors may need to offer mutually beneficial incentives such as a useful, deliverable product. In our case, this will be an "Elderly on the Internet" manual that addresses the computer and Internet needs of a geriatric clientele. Other benefits include the positive publicity that could be generated as a result of a successful service-learning project. Campus public relations offices could also propose doing feature stories on service-learning projects to local media.

Once the community partners are selected, a research sample on which to implement the service-learning intervention has to be clearly identified. This is not as easy as it sounds. As a matter of fact, one of the main challenges of the gerontology project in question was finding enough dependable elderly research participants to obtain a statistically adequate sample size (at least 30 experimental and 30 control participants). The original inclusion and exclusion criteria mandated that research participants should be over 65 years of age, be able to understand English, reside in an assisted care facility, and be cognitively high-functioning. Participants at risk of physical harm to themselves or others and those actively psychotic were to be excluded. As clarified below, adhering to all of these criteria would have resulted in the research project's failure.

Prior to the beginning of the semester, we rightly believed that it was essential for us to conduct a focus group with the prospective community research participants. The findings of these types of groups can help identify prospective participants' unique concerns and needs, which can then be formulated by professors in terms of specific service-learning community service goals (although not necessarily tested empirically). In our case, we had to modify the original decisions regarding the ideal research sample after the client focus group was held, as various sample-related limita-

tions became evident. The initial facility that we selected as our community partner and training site had far too few residents who met our recruitment criteria. Administrators at the community partner agency had unintentionally overestimated the mental and physical abilities, as well as the commitment level, of many of their clients who initially expressed a desire for the provision of our service-learning intervention. This did not lessen administrators' enthusiasm to collaborate in the research project. Based on the results of the focus group, we immediately started distributing publicity fliers throughout nearby communities to recruit additional elderly participants in the study, as the lack of qualified institutionalized seniors would have posed excessive limits on our sample size. Since most of our research participants were eventually recruited from outside the retirement home, revised training schedules were created to accommodate them at suitable training facilities. These adjustments were made primarily during class time, as well as by students on their own time while recruiting in the community, so Laganà had the challenge and opportunity to turn logistic difficulties into creative problem solving sessions that did not significantly discourage students (according to their feedback).

As recruitment proceeded slowly, we learned that there are many reasons for potential research participants, and older adults in particular, to refuse to participate in a service-learning research study. These individuals may distrust the anonymity of the research process, a factor that, in turn, may be linked to fears of the stigma often associated with taking part in a project established by a mental health department. Some service-learning clients with negative attitudes toward mental health providers may generalize their attitudes to service-learning students. Potential research participants may also resent the paucity of ethnically matched researchers (in our case, the student trainers), especially if there are language difficulties. Luckily, many of the students in the gerontology class in question were fluent in several languages. In our project, some of the most motivated institutionalized trainees had to interrupt their computer and Internet training due to health problems. Under these circumstances, it is up to professors to make sure that such individuals complete their training, even if the service-learning class is over, so that these clients can receive the promised service, although they will not be included in the final research sample on which the main data analyses will be conducted. If not properly addressed, the aforementioned obstacles could negatively impact the quality of service-learning research, as well as the commitment to clients. Another strategy for dealing with recruitment problems is to persuade older adults to participate in service-learning endeavors through financial compensation or by using an incentive system created in collaboration with community partners. We chose not to resort to these tactics.

It should be noted that Step One and Two are to be implemented whenever possible prior to Step Three, but it may become necessary to revise the originally planned research outcomes and, therefore, implement these steps more than once while establishing the service-learning research foundations. This was not necessary in our case. Nonetheless, as already mentioned, we had to change our plans relative to the characteristics of our sample and to our recruitment procedures, offering access to the study also to non-institutionalized older adults. Based on our experience with this service-learning endeavor, we strongly encourage faculty to consider planning the activities related to these two steps well in advance, to avoid difficult time pressure at the start of the service-learning class.

Step Three: Design the Course and Its Service-Learning Research Component

Once the community agency and the faculty member agree on the student learning and community service outcomes of the service-learning research project, it is time to incorporate these goals into the design of the service-learning course. While there are many ways to do this, the course design best suited for success is one that uses a team approach to service-learning, while maximizing the amount of personal contact between service-learning clients and students. We have already described the general structure and requirements of the gerontology course. The experiential service-learning component of this course started after three weeks of in-class training, which provided introductory material on working with elderly clients and reviewed the basics of computer and Internet operations. An individualized, one-on-one instruction format was planned to reduce the difficulties and related discomfort that could have arisen if the training had been offered in a group setting, especially since several research participants had visual and/or hearing difficulties.

Although the main training focus was teaching the elderly how to use the Internet, students needed to first teach them computer fundamentals before they could write and send messages electronically and learn how to explore the Web. Individualized instruction using the manual was scheduled to last six weeks, with each older adult being assigned the same trainer throughout the project. As mentioned before, the Internet training assignment asked seniors to send an e-mail (while their trainer was present and without any help) to the graduate student in charge of data collection on this item, who kept track of those who accomplished this goal. Successful completion of this task was then to be recorded in each trainee's assessment package, along with the number of hours research participants spent

practicing independently, so practice time could be related to the client research outcomes.

Next, it was time to finalize a research design. At the end, taking into account our methodological constraints, we selected a quasi-experimental design, as seniors self-selected either the control or the experimental condition. Those in the experimental condition were tested before and after six weeks of computer and Internet training. Control participants were assessed twice, with six weeks in between testing times, and received no training. The latter were recruited into this project with the understanding that they would serve as control participants for those in training. Possible significant differences in the characteristics of the control versus the experimental participants will be taken into account in the data analyses.

Supported in their recruitment efforts by both authors, most of the students identified an elderly trainee to whom to impart computer and Internet skills through weekly lessons conducted at our community partner's computer laboratory. Given the challenges encountered when attempting to recruit elderly participants into the experimental group, the initial class requirement of training at least one senior was lifted, and students who were unable to identify older adults willing to become trainees recruited and assessed several control research participants (usually two to four). As a result, the achievement of our sole student research objective was hypothesized to take place only for those students who actually trained seniors, not for those who conducted research exclusively on control research participants. It was very impressive to notice how students helped each other locate possible trainees or control participants, making this service-learning research experience very collaborative and productive. Data analysis procedures include repeated-measure analyses of variance (ANOVAs) and multiple regression analyses, which are currently being utilized to test the significance of our service-learning research findings.

Once all of the main components of the service-learning investigation in question have been illustrated, the next step is to address the topic of possible publications. Depending on the findings, the Internet service-learning project could be divided into sub-studies that will advance knowledge of gerontology and the pedagogy for teaching in this field. Testing for positive changes in the trainers' possible biases toward the use of computer technology by the elderly could result in either a discipline-based article or a pedagogical publication, depending on the focus of the paper and on whether the students indeed changed their attitudes to a significant extent. A pedagogical article for a teaching journal could be written about service-learning teaching strategies for working with older adults on technology projects, analyzing pre- and post-training differences regarding their performance and attitudes toward computers and the Internet as a result of the service-learning experience. Additional publication opportunities

within this service-learning class include qualitative investigations on the content of the diaries in which students discussed how their service-learning experiences impacted them at academic and personal levels.

Another possible discipline-based contribution could be made through the investigation of the causes of seniors' reluctance to use computer technology. Students could write a paper on this topic, based on their first-hand experience with elderly trainees, although this task was not one of our gerontology class assignments. Furthermore, faculty members interested in this type of community-based research could involve different departments in service-learning research projects and publications. For instance, had Laganà worked in collaboration with the Computer Science department, a pedagogical article could have been written on how to structure interdepartmental collaboration to successfully address the needs of elderly populations by providing multidisciplinary service-learning interventions.

Step Four: Guide Students to Conduct the Community Intervention, Reflect, and Create a "Deliverable"

At this point, faculty members are finally ready to start conducting community-based research utilizing service-learning. Relative to our Internet project, during the first three weeks of class, Laganà engaged the class in a discussion forum on how to address potential research-related challenges. Students were also trained to be empathic and effective personal trainers. In addition to the implementation of alternative recruitment strategies, this service-learning research project also required us to address many technical challenges. First, there was a shortage of Internet-ready computers available for our training sessions in the community partner's training facility. Despite assurances from the organization, the computer laboratory was not fully operational by the time students were scheduled to begin training. Many of the computers had been donated and had technical defects. The site also had to install additional phone lines for the modems necessary for Internet access. Since the community agency overestimated its equipment capabilities, the semester could have been over before these technical difficulties were solved, so we brainstormed ways to meet these challenges. This was done both in class and in collaboration with the campus service-learning department, of which Rubin is the director. Alternative sites with greater computer capacity were soon identified, and arrangements were made for students to train their research participants at these new locations.

It should be noted that even the most accurately designed service-learning research project might fail if inadequate attention is paid to logistics such as scheduling and transportation issues. Specifically, professors

should have students fill out forms that identify their hours of availability, whether they have a car and are willing to transport other trainees to the community site, and what special skills or interests they have that could enrich the research project. Based on our experience, we also recommend that professors revisit the chosen community sites, to ensure that onsite staff members and the needed equipment are indeed available.

Even if every service outcome selected by professors and community partners is achieved, students will not successfully meet their learning objectives unless faculty members guide them to make the desired connections between the community service performed and course content. Learning strategies to facilitate these linkages include reflection and the creation of a deliverable (Rubin, in press). Reflection is a critical part of this step, as many pedagogical tools can help students reflect on their service-learning experiences. One of the most popular is student journals or diaries, in which entries are made after each service experience. Journal entries can be structured by requiring that students answer scripted questions about their expectations or experiences, or about the ties between the services performed and that weeks' lecture and readings. Entries could also be unstructured, giving students an opportunity for self-expression.

In "Introduction to Gerontology," students were required to keep a diary and divide their journal entries into three parts: (1) training facts and related challenges, (2) impact of the service-learning experience at a personal level, and (3) relationship of this experience to course content. For students who did not find a trainable research participant, diary entries were simpler, describing challenges encountered when assessing their elderly control participants, relating them to relevant course content, and discussing the impact of this experience at a personal level. After each training session, students working with senior trainees were required to write something related to each of the aforementioned three areas, preferably using different color inks or different computer fonts. These diary components are important reflective tools, as they encourage students to achieve all of the aforementioned learning objectives including those not empirically tested. It is also possible to ask students to make online journal entries (through a Web-based discussion forum) that can be posted asynchronously for all to access. Journal entries can also provide interesting data for research projects. If faculty decide to analyze journals, a procedure to sort, examine, and confirm data, as well as to describe themes and determine how these themes may be synthesized, is recommended (McCracken, 1988). Software is currently available on the market, such as Nudist, which analyzes qualitative data by searching for keywords and developing themes in pieces of writing. Class discussions are important reflection forums as well. Our gerontology students periodically shared their thoughts, suggestions, and reflections related to the community project in class.

The production of a deliverable is another important contribution to community partners. As already mentioned, groups of students were required to put together an "Elderly on the Internet" manual by the end of the course, expanding the content of the preliminary manual to make it user-friendly for older adults wanting to use it without a trainer. Laganà is in the process of synthesizing the content of all manuals in a final version to be given to community partners for use independently by their elderly clients, for staff training purposes, and as a training tool for staff to teach those clients who require one-on-one training. The deliverable often becomes a showcase for student creativity and academic achievement, and students may be more motivated to work harder when knowing that the community will actually be using a product that they created. Research could be conducted on the effectiveness of using the final training manual with senior trainees. For example, professors could compare the results of following the manual in a group training format versus in one-on-one training with older adults, especially if the latter have no significant sensory difficulties that could interfere with their fully perceiving the training information delivered in a group format.

Step Five: Perform Baseline Assessment and Post-Community Intervention Assèssment and Evaluation

The last of the five steps of our proposed research model relates to conducting the planned assessment procedures and the evaluations of the community intervention from the point of view of everyone involved in the service-learning experience. As described by Paloma and Banta (1999), assessment is the systematic review, collection, and use of information concerning educational programs that are undertaken to enhance student learning and development. It is formative and ongoing and should result in programmatic improvements after each semester. Assessment is relatively simple to accomplish, if it is tied to the students' and clients' research objectives selected for the service-learning research. Students' attitudinal and behavioral changes related to these outcomes can be measured by a variety of assessment tools, such as questionnaires or interviews. It would be ideal to create indicators that demonstrate changes in actual behavior as well as behavioral intentions. Several assessment mechanisms were embedded within the service-learning project in question. Laganà supervised all of its stages, carefully monitoring project-related activities in collaboration with her research assistants assigned to this study, and relying on the service-learning expertise of Rubin as the various challenges of the project surfaced. It is particularly important for faculty to set up a group of student research collaborators and project assistants, especially if the service-learn-

ing study is complex and has multiple community sites. In our case, these assistants monitored the one-on-one training sessions conducted by service-learning students and helped identify and solve technical or interpersonal problems.

Concerning the assessment forms created for our gerontology course, we first conducted extensive literature searches in order to find existing tools that would measure the impact of our service-learning work. We were fortunate to locate a professor at another university who had developed a measure to assess Internet-related interests and training needs and who was kind enough to share it with us. Additionally, as mentioned in Step One, original instruments were developed by Laganà to assess possible biases held by students and by the elderly themselves toward older adults using computers and the Internet. Moreover, many standardized assessment tools were included exclusively in the baseline assessment package, in order to measure variables such as seniors' demographic characteristics, medication use, Internet interests, self-esteem, anxious and depressive symptomatology, coping styles, and quality of life issues. This was done for future identification of possible predictors of successful changes in trainees' computer use self-efficacy, as well as their attitudes toward and ability to use the Internet (to be tested through data analysis procedures such as multiple regression analyses).

For the first semester of this service-learning project in progress, a main assessment-related challenge was that several institutionalized seniors, although interested in the project, were unable to complete assessment even with the extensive, one-on-one assistance of their service-learning personal trainers. It must be taken into account that, regardless of whether the elderly have the capacity to answer questions, they may refuse to complete the assessment package, negatively impacting the research project. In our case, student trainers were instructed to read the pre- and post-training questions in the questionnaire set, unless the elderly trainees preferred to complete the forms without help. Many seniors chose to be helped, and consequently most students spent several hours filling out the assessment packages for their research participants. Regardless of whether seniors completed the assessment alone or with their trainers, many of them complained about the length of the pre- and post-training package (over 20 pages). Administration of numerous assessment tools is an option, although it may reduce the number of older adults willing to participate in service-learning research, as it did in our case.

Other tools will allow each population group to evaluate the other and provide additional research opportunities. Using simple questionnaires with a combination of Likert scale ratings and open-ended questions, students can evaluate faculty members and their supervisors at the community service sites. In addition, onsite supervisors can evaluate the students and

the service-learning faculty using a checklist with space for additional comments. Specific information is gathered from each group. For example, staff at the community organizations can rank students from "unsatisfactory" to "excellent" in such categories as attendance, punctuality, quality and benefit of service to the agency's clients, respect for confidentiality, and enthusiasm. Students can rank their service-learning experience from "very satisfactory" to "very dissatisfactory" in such areas as helpfulness of staff, adequacy of orientation, training and supervision, as well as availability of meaningful service assignments that contributed to their learning of the service-learning course material. These evaluation forms can provide useful information that will help faculty members improve the quality of their service-learning courses and assure community placements of service-learning students. Research on these issues could, for example, compare the students' evaluations of different community partners and relate the results of such evaluations to the outcomes of the service-learning research. For instance, if findings show that the same community intervention obtained significantly different results as a function of the facility where it took place, it is important to investigate why this was the case and make appropriate changes to enhance the quality of future service-learning research efforts.

To present the reader with an easy guide to incorporate research into service-learning, Table 1 lists the steps of the proposed research model, lists corresponding sample methodological challenges, and proposes possible solutions to such challenges. This table aims at clarifying each critical step needed to implement service-learning research by relating it to the real-life example of the gerontology class in question.

CONCLUSIONS

Service-learning is a vehicle for high-quality research and a way for faculty to tie their service to scholarly work. Service-learning research conducted in the community uses service-learning itself to advance professors' research agenda, understand and assist the community, and engage students in research. This chapter presents a new model for the implementation of service-learning research. It is intended to help faculty identify possible solutions to common methodological challenges encountered in this field by describing several difficulties that we encountered during our service-learning research endeavor. Coupled with the other chapters in this book, the work discussed herein aims at giving a novice practitioner helpful hints on the requirements necessary to launch a successful and meaningful service-learning research project.

Table 1. The Proposed Service-Learning Research Model, Sample Methodological Challenges, and Potential Solutions

Steps of Our Service-Learning Research Model	*Sample Methodological Challenges*	*Corresponding Potential Solutions*
1: Define Preliminary Research Objectives and Operationalize the Research Variables of Interest	• Measures that operationalize critical variables are not available	• Contact experts in the field of inquiry who might have new, unpublished tools—Create original assessment instruments
2: Plan Community Collaboration and Select the Research Sample	• Community partners overestimate the ability of their clients to engage in the service-learning research project	• Locate alternative community partners—Make the service-learning intervention available to the community at large
3: Design the Course and its Service-Learning Research Component	• Initial research requirements do not meet the realities of the community partner's targeted clients population	• Modify class requirements allowing more recruitment flexibility, such as letting students conduct research exclusively on control participants
4: Guide Students to Conduct the Community Intervention, Reflect and Create a "Deliverable"	• The chosen community partner agency experiences difficulties that interfere with the implementation of the planned service-learning intervention	• Identify alternative sites at which to deliver the intervention—Discuss related scheduling and transportation issues in class
5: Perform Baseline Assessment and Post-Community Intervention Assessment and Evaluation	• The service-learning clients find it hard to complete the pre- and post-intervention assessment	• Instruct students to read questions and fill in trainees' responses—Reduce the size of the assessment battery

As described in this chapter, when pursuing community-based research using service-learning, methodological threats from various sources may be encountered at each of the steps of the proposed research model. Becoming aware of the methodological issues relative to these steps is important if faculty want to enhance the quality of the community-based research that they conduct within their service-learning classes. This type of research must deal with challenges that are commonly faced in community-based investigations, such as problems with research participants' recruitment and retention. In particular, randomization is challenging, considering the ethical concerns inherent in a project that might result in the denial of services to those in need. Additionally, the nature of many service-learning studies does not often allow for research participants to be placed on a

waiting list, given the usual time frame of a single course term available to faculty and students for conducting service-learning projects. As experienced in our research endeavor, the motivation of seniors to participate in such a project, or their health status, may deteriorate as time goes by, further reducing the availability of elderly participants for service-learning research endeavors.

Thanks to service-learning projects, individuals within the community and subgroups that would not ordinarily receive the services provided by these projects could be exposed to initiatives that aim at enhancing their quality of life. Moreover, community service-learning work has the potential to bind students closer to society in both a political and moral sense (Eckenfels, 1997), as many of them become activists committed to social justice (Roschelle, Turpin, & Elias, 2000). Students who complete service-learning courses can then propose their services to diverse institutions and organizations, spreading the scope of these projects to many other community contexts. As students perceive that they have made a lasting impact on their community, and this perception is further reinforced by the successful findings of service-learning research, this may further motivate them to participate in social changes for their communities, well beyond their initial service-learning experience.

Overall, we found this experience very stimulating and educational, and did our best to circumvent or minimize as many methodological threats as possible, considering all of the challenges facing the design and implementation of this service-learning endeavor. Hopefully, sharing our service-learning research experience with the audience of this book will inspire interested faculty to adapt a very flexible approach to this type of research, not to be discouraged by its complexity, and to become even more motivated to conduct needed community-based, service-learning interventions. We believe that if professors want their work to impact the community positively, interventions conducted by utilizing service-learning are a very viable and rewarding way to achieve such a goal.

REFERENCES

Astin, A.W., Vogelgesang, L.J., Ikeda, E.K., & Yee, J.A. (2000). *How service learning affects students.* Los Angeles: University of California, Higher Education Research Institute.

Bringle, R.G., & Hatcher, J.A. (1995). A service-learning curriculum for faculty. *Michigan Journal of Community Service Learning,* 112–122.

Cone, D. (2000). *Service learning: Designing course syllabi.* Los Angeles: University of Southern California, Joint Educational Project.

Czaja, S.J., & Lee, C.C. (2001). The internet and older adults: Design challenges and opportunities. In N. Charness & D.C. Parks (Eds.), *Communication, technol-*

ogy and aging: Opportunities and challenges for the future (pp. 60–78). New York: Springer Publishing.

Diamond, R.M. (1999). *Aligning faculty rewards with institutional mission. Statements, policies, and guidelines.* Boston: Anker Publishing.

Driscoll, A. (1998). *Course alignment grid.* Center for Teaching, Learning and Assessment. California State University, Monterey Bay.

Driscoll, A., Gelmon, S., Hollard, B., Kerrigan, S., Spring, A., Grosvold, K., & Longley, M.J. (1998). *Assessing the impact of service learning: A workbook of strategies and methods.* Portland, OR: Center for Academic Excellence, Portland State University.

Driscoll, A., Hollard, B., Gelmon, S., & Kerrigan, S. (1996). An assessment model for service-learning: Comprehensive case studies of impact on faculty, students, community, and institutions. *Michigan Journal of Community Service Learning*, 66–71.

Driscoll, A., & Lynton, E.A. (1999). *Making outreach visible: A guide to documenting professional service and outreach.* AAHE Forum on Faculty Roles and Rewards.

Eckenfels, E.J. (1997). Contemporary medical students' quest for self-fulfillment through community service. *Academic Medicine, 72*(12), 1043–1050.

Ehrlick, T. (1997). Civic learning: Democracy and education revisited. *Educational Record*, 57–65.

Eyler, J., & Giles, D. E. (1999). *Where's the learning in service-learning?* San Francisco: Jossey-Bass Publishers.

Eyler, J., Giles, D.E., & Schmiede, A. (1996). *A practitioners' guide to reflection in service-learning; Student voices and reflections.* A technical assistance project funded by the Corporation for National Service. Nashville, TN: Vanderbilt University.

Fertman, C. (1993). Making school-agency collaboration work. *The Education Digest, 58*, 58–62.

Gamson, Z.F. (1997). Higher education and rebuilding civic life. *Change, 20*(1), 10–13.

Gray, P.J., & Diamond, R.M. (1994). Defining faculty work. *New Directions for Institutional Research, 84*, 65–78.

Henke, M. (1999). Promoting independence in older persons through the internet. *CyberPsychology and Behavior, 2*(6), 521–527.

Kellett, C., & Goldstein, A. (1999). Transformation in the university and the community: The benefits and barriers of collaboration. *Journal of Family and Consumer Sciences, 91*(2), 32.

Laganà, L., & Shanks, S. (In press). Mutual biases behind the problematic relationship between older adults and mental health providers: Any solutions in sight? *International Journal of Aging and Human Development.*

McCracken, G. (1988). *The long interview* (Sage University Paper Series on Qualitative Research Methods, Vol. 113). Newbury Park, CA: Sage.

Morrell, R.W., Mayhorn, C.B., & Bennett, J. (2000). A survey of world wide web use in middle-aged and older adults. *Human Factors, 42*(2), 175–182.

O'Grady, C. R. (2000). *Integrating service learning and multicultural education in colleges and universities.* Mahwah, NJ: Lawrence Erlbaum Associates.

Paloma, C., & Banta, T. (1999). *Assessment essentials.* San Francisco: Jossey-Bass.

Roschelle, A.R., Turpin, J., & Elias, R. (2000). Who learns from service learning? *American Behavioral Scientist, 43*(5), 839–847.

Rubin, M.S. (2001). A smart start to service-learning. In M. Canada & B.W. Speck (Eds.), *Developing and implementing service-learning programs.* San Francisco, CA: Jossey-Bass.

Sherman, F.T., & Torbert, W.R. (2000). *Transforming social inquiry, transforming social action: New paradigms for crossing the theory/practice divide in universities and communities.* Norwell, MA: Kluwer Academic Publishers.

CHAPTER 9

SERVICE-LEARNING AS QUALITATIVE RESEARCH

CREATING CURRICULUM FROM INQUIRY

Robert Shumer

Qualitative inquiry cultivates the most useful of all human capacities—
the capacity to learn from others.
—Patton (1990)

INTRODUCTION

In a previous effort, Shumer (1997) claimed that service-learning and evaluation were an inseparable process. This work builds on that discussion by demonstrating how service-learning and evaluation research are intimately linked through the questions and learning activities that drive the program. The focus is on how the creation of service-learning curriculum follows good qualitative research practice.

In this chapter, Shumer explores the roles evaluation and qualitative research play in the implementation of service-learning. It is important to note that determining service needs of the community and monitoring the effectiveness of service are two fundamental processes in service-learning programs. Students cannot understand their roles as service providers and the assistance they provide to the community unless they continuously reflect on what they do throughout the process (Dewey, 1938; Kolb, 1984).

In implementing service-learning, teachers frequently do not emphasize the importance of determining service needs. Neither do they emphasize the ongoing assessment of the impact of the service delivery to determine its value and its effectiveness. Yet, these two program necessities are perhaps the most essential elements of any experiential or service-learning initiative.

SERVICE-LEARNING AND NATURALISTIC EVALUATION

Although there are many definitions of service-learning (Giles, Honnet, & Migliore, 1991; Shumer, Berkas, & Murphy, 1992), there are some common beliefs and behaviors about which most people can agree. Spelled out in the Wingspread materials (Honnet & Paulsen, 1989) and the Alliance for Service-Learning in Educational Reform (ASLER, 1993) standards for good practice, these traits include: (1) connecting with the community served throughout the process to determine real need and to measure the level of quality and impact; (2) involving students in the selection, development, and evaluation of service sites and services experiences; (3) including formative and summative evaluation of the impacts of service and quality of learning; (4) including regularly occurring reflective sessions that analyze connections between service experiences, academic theories, and subject matter; and (5) constructing curriculum that enhances the learning potential of the service experiences. Except for the last item, curriculum development, all of the elements identified include some aspect of qualitative inquiry. It is Shumer's contention that this is a fair representation of service-learning, and therefore it is reasonable to conceive of service-learning as primarily an evaluation driven process.

Experiential learning, as described by John Dewey (1938), is a system based on doing and evaluating. Dewey used the term scientific method to identify the steps for such learning. This system of learning consists of a continuous spiral of events (Kolb, 1984), starting with direct experience, followed by periods of reflection where hypotheses are generated about immediate and future meaning, and then tested through subsequent experiences and actions. These follow up activities, of course, start the whole process over again. Dewey bases his philosophy on the notion of empiricism—things that are known and learned come from observation and action. As Bandura (1983) later describes it, we learn primarily from observing, from modeling, and from doing.

The study of learning from observation and experience is found in the discipline of naturalistic, qualitative inquiry. The process of qualitative study is one of learning by observing, discussing, and doing. In this sequence of events, as described by qualitative researchers such as noted anthropologist James Spradley (1980), learners go through a process of

entering a setting to learn about the people and culture primarily through observation and interviews. Spradley outlines a Developmental Research Sequence that essentially moves the investigator through a continuous series of observations and questions that focus on the behaviors and understandings of the people in the setting. The ultimate goal is to describe the world as seen through the eyes of the members of the setting: the short-term goal is to understand why people behave as they do.

In many ways, this is precisely what students do as they go through the various steps of providing service in a particular setting. They have to initially find out what is going on in the setting; determine what people do and what needs exist, then formulate a plan to deliver appropriate service; and then, measure the impact on themselves, those served, and the larger community. Not only is the service-learning process similar to that of qualitative, naturalistic research, the goals and language of both systems echo concern for improvement of the human condition and respect for and inclusion of the community members in the entire learning process.

Spradley (1980) describes the status of qualitative research. He says:

> There was a time when "knowledge for knowledge's sake" was sufficient reason for doing social science, at least for those who believed in the inevitability of progress and the inherent goodness of science. But that time has since passed ... In addition, scientists can no longer ignore the uses to which research findings are put. This applies not only to research in genetics and atomic energy but also to ethnographic studies ... One force at work today that makes it imperative for ethnographers to synchronize these two perspectives [of the world of the scholar scientist and the practical man] comes from the people we study ... Informants are asking, even demanding, "ethnography for what? Do you want to study our culture to build your theories of poverty? Can't you see that our children go hungry? Do you want to study folk beliefs about water witching? What about the new nuclear power plant that contaminates our drinking water with radioactive wastes? Do you want to study kinship terms to build ever more esoteric theories? What about our elderly kinsmen who live in poverty and loneliness?" Another way to synchronize human needs with the accumulation of scientific knowledge is through what I call "strategic research." Instead of beginning ethnographic projects from an interest in some particular cultural area of the world, or theoretical concern, strategic research begins with an interest in human problems. (pp. 16–18)

In this discussion of the role of ethnography, Spradley describes a research/evaluation system that improves the human condition. Such programs attend to the perceived needs of the informants (or the community). This places the ethnographic approach squarely in line with the goals and practices of service-learning. Service-learning programs are supposed to meet the needs of the community (Sigmon, 1983) and are required to include scientific evaluation strategies to be of high quality

(ASLER, 1993). Thus, students function like ethnographers, engaging in a process of understanding the places and people they serve.

Michael Patton (1990), nationally known researcher and author on qualitative methods of evaluation, also discusses the purpose for doing practical research. In books such as *Utilization Focused Evaluation* (1986) and *Qualitative Research Methods and Practice* (1990), he contends that the purpose for doing research is to improve programs and practice. He explains that there is always an expected outcome that changes some behavior or practice, making the human condition better. He states:

> I use the term 'evaluation' quite broadly to include any effort to increase human effectiveness through systematic data-based inquiry ... When one examines and judges accomplishments and effectiveness, one is engaged in evaluation. When this examination of effectiveness is conducted systematically and empirically through careful data collection and thoughtful analysis, one is engaged in evaluation research ... The purpose of applied research and evaluation is to solve human and societal problems. Applied evaluative research is judged by its usefulness in making human actions and interventions more effective by its practical utility to decision makers, policymakers, and others who have a stake in efforts to improve the world. (pp. 11–12)

Patton suggests that applied research is a method of collecting information and using it to improve human conditions. He also contends that any systematic effort that collects data to "judge accomplishments and effectiveness" is engaged in evaluation research.

This, it seems, is precisely the goal and purpose of service-learning—to improve the human condition by engaging in actions that produce improved service to community members and increased learning on the part of service deliverers. Clearly, service-learning is about accomplishments and effectiveness, and determining accomplishments and effectiveness is an evaluation research function.

Thus, the goals, purposes, and methods of service-learning are similar to those of naturalistic/qualitative research. Both are about improving the human condition. Both espouse listening to and respecting those studied. Both believe that learning involves listening to, observing, and having dialogue with community members. Both assume that primary learning occurs through a process of reflecting on activities, observations, and interviews. Both assume the researcher (student) is the primary instrument of data collection and analysis and that she/he must be actively engaged in the process. And both assume the learning results in some form of social change and/or action, which provides direct feedback on the quality of the service. In short, service-learning and naturalistic/qualitative research engage individuals in common purposes and similar practices.

INCLUDING QUALITATIVE RESEARCH METHODS AS PART OF EDUCATIONAL CURRICULUM

If you accept the supposition that social science methods of qualitative inquiry are congruent with service-learning, then the process of developing curriculum becomes one of using inquiry strategies and methods as the primary activities of the learning program. This means that following the principles and practices of qualitative research defines the learning curriculum. The student is usually the person who performs these functions. Teachers, too, are involved in the process, providing guidance and feedback on student progress.

What does such a process entail? First, the naturalistic researcher attempts to understand the setting. This means observing and talking to people to determine what they do and what needs to be done (what service needs to be provided). Once understood, the next step is to discover how a program is to be implemented (what and how the service is to be delivered). Here the investigator observes and interviews members of the setting to determine perceptions about the service to be provided. As the program needs are defined, the evaluator has to conduct a self-assessment and decide what he or she knows and what needs to be known to intelligently deliver service. In the case of adult-led programs, the adults (teachers, etc.) help determine what subject matter is related to the service. This becomes a critical part of the process because curriculum development occurs during this phase. Throughout the process, the researchers (students and teachers) monitor the progress of all participants, attempting to assess the impact of the service provided on those involved and the value of the effort on improving the quality of life in the setting.

It should be noted that the primary role of naturalistic inquiry is to guide, monitor, and regulate each component of the process. By continually questioning what needs to be done and how well the service is being delivered, the researchers (students and teachers) make adjustments and refinements to change the nature of the service and/or the knowledge applied through the service. There is a reciprocal process operating here that actively connects the service with the learning.

How naturalistic inquiry drives the curriculum process can be defined by the nature of the service-learning program itself. Despite the fact that there are many types of service-learning (Shumer et al., 1992), curriculum development occurs primarily through two orientations. First, there is course-based service-learning, or field study, where the service/experiential component is really an extension of the classroom. Topics and subjects normally taught in the class direct and influence what is to be learned from the community experience. Second, there is community-based service-learning, where the service activities create the topics and subjects to be

studied, irrespective of a supporting course. This approach is closer to Dewey's (1938) notion of experiential learning and progressive education, where the experiences drive the curriculum, not the demands of traditional academic study. While students may end up at the same place, and certainly there can be mixtures of the two, the important point is distinguishing where the demand for learning comes from and how it fits with the overall goal of the program.

CURRICULUM INTEGRATION

The call for integration of naturalistic inquiry into the curriculum is really a request to develop a coherent curriculum, one that "involves creating and maintaining visible connections between purposes and everyday learning experiences" (Beane, 1995b). The qualitative research perspective requires that the student continuously connect the field learning with some overriding context—a constant effort to derive meaning from the experiences gained in the field and in the classroom. For course-based service, the context is created primarily by the teacher and subject matter of the course: each field activity needs to be understood in terms of the subject being traditionally taught. Coherence is brought about as subjects in the field are integrated into the themes and concepts of the classroom. The example found in the Table 1 (Cardiology site for the King/Drew Medical Magnet program) illustrates how student learning is driven by the course curriculum. Because the students expect to earn credit in their career and biology classes, their learning objectives and activities at the service site must be connected to the course learning objectives. The focus on career information and knowledge of the cardiovascular system ensures that the service and learning fit into the context of the academic courses in the school.

In the opposite case, that of community-based service-learning, coherence is created by the students as they develop curriculum in response to the needs of the community. In this situation, evaluation becomes the cornerstone of the process because students continuously assess what needs to be done, what needs to be learned to accomplish the stated goals, and what indicators are necessary to constantly measure the impact of the service and the effectiveness of the learning by all involved. The very nature of service-learning requires learner involvement, for each student must be able to measure the dimensions of service and learning throughout the process.

TWO MODELS: COURSE-BASED SERVICE (FIELD STUDY) AND COMMUNITY-BASED SERVICE-LEARNING

Examining two specific examples sheds more light on how these two approaches differ regarding evaluation research and curriculum development. In the first case, that of field study or course-based service, we start with the course that awards the academic credit to determine what academic curriculum is produced. If we use an example of a biology class working with a medical center, then intentional connections can be made between normal instruction in biology and expected learning in the field. Table 1 shows how the goals and indicators of a Cardiology unit are used to help students connect the concepts of biology to their activities at the medical center.

Following the framework from this Cardiology unit, students are expected to learn about the operation of the department, the functions of the circulatory system, the purpose and use of various instruments, specific vocabulary, and information about the clinical process. While there may be ancillary learning in a variety of other areas, the focus on career education and biological content prescribes what is to be learned from the service activities (which in this case is the development of an exercise program). The student activities function primarily as an extension of the class, assessing how experiences connect to the course content.

Table 1. Goals and Indicators of a Cardiology Project Connected to a Biology Class

Goals	*Indicators*
1 To understand the functions of the cardiovascular system.	1 Prepare a diagram of the cardiovascular system, identify important parts, and explain the function of the parts involved. 2 Draw a diagram of the heart, indicate important sections, and describe the purpose and function of each section. 3 Describe common ailments of the cardiovascular system and tell how they affect functions of the body.

Table 1. Goals and Indicators of a Cardiology Project Connected to a Biology Class (Cont.)

Goals		*Indicators*
II	Know how to monitor and diagnose diseases of the cardiovascular system.	1 Describe the purpose, function, and protocol of the following tests: electrocardiography, echocardiography, phono and pulse reading, cardiac catheterization, and coronary and ventricular angiography. 2 Explain what each test measures, cite normal values, and evaluate results from two patients. (each test) 3 Describe purpose, function, and protocol of any additional test you observe. 4 Describe proposed procedures for any clinic you attend.
V	Know the function and value of exercise related to cardiovascular health.	1 Explain the purpose of exercise as it relates to the heart. How does heart function change as exercise increases? 2 Describe how and when exercise can be harmful to the cardiovascular system. 3 Outline an exercise program for yourself that would improve your cardiovascular development. Perform pre and post program measurements and analyze the changes in cardiovascular performance. 4 Develop an exercise program for an adolescent group. Explain your rationale for how the program will improve cardiovascular efficiency. Perform pre and post treatment measurements, collect data on progress of treatment, and analyze results. Prepare a written and oral report on your investigation.
V	Know about careers related to cardiography	1 Describe the job responsibilities of a cardiologist, EKG technician, and an Echocardiography technician. 2 Tell what training and education are needed for each job, as well as benefits and drawbacks to the job, salary, and expected demand in the future.

For community-based service-learning, the process is altered. The student, in this case, functions much more like an evaluation researcher. Instead of having the content and approach dictated by the academic institution, the curriculum emerges based on investigations conducted at the site. The student must first observe, construct a plan of study and implementation, and then execute the plan to determine if service and learning

are occurring. For example, the Student Learning Plan (found in Tables 2A and 2B), utilizes the community-based service-learning approach for activities that address a life science topic. It has students start with a planning process where questions, themes to be explored, and community participants plan the program over a period of time.

Table 2a. Student Project Plan

Experienced-Based Career Education

Student:_____ Project No.:_____ Package:_____

LC APPROVAL:_____ Date:_____ Date Project Started:_____

Technical Advisor(s) (If any):_____

1. Project Description

A. **Title**:

		EBCE Credits
Planned Credits	1._____	1._____
Subject Area	2._____	2._____
	3._____	3._____

B. **Theme** (Please give a brief description of your project):_____

C. **Questions to be Investigated**:_____

STUDENT PROJECT PLAN—GOALS, INDICATORS, AND EVALUATION

Student:_____ LC:_____ Project Title:_____

For Indicators For Evaluator's Use

Goals and Indicators	Due Date	Evaluator	Date	Initials & Rating	Comments

Use as Many Copies of this Page as Are Necessary

Table 2b. Life Science Package Goals

Goal 1: Using Information

You should practice and improve your basic skills by using at least one method of acquiring and one method of communicating information in the course of your project.

ACQUIRING INFORMATION
(Choose one)

- Reading: You should be able to read critically and comprehend newspaper and magazine articles, scientific journals, books, or other materials pertinent to your project.
- Listening: You should be able to listen effectively and critically to speeches, lectures, broadcasts, or other commentaries related to your project.
- Observing: You should be able to acquire and interpret information from slides, films, experiments, specimens, and other materials or events appropriate to your project.

COMMUNICATING INFORMATION
(Choose one)

- Writing: You should be able to clearly express in writing ideas and findings from your project.
- Speaking: You should be able to orally express information and ideas related to your project in a manner that effectively communicates with others.
- Innovating: You should be able to communicate ideas or findings using means other than the written or spoken word, for example, through creating photographs or a film, graphic illustrations, or working models.

Goal 2: Problem-Solving (Required)

You should expand your problem solving skills by designing and conducting experiments, researching a major problem or question facing life scientists today, or thoroughly investigating a living organism in terms of its structure, function, and interaction with its environment. To do so, you should use scientific methods including the following:

- Identify a significant problem or question. (Why is it important? Who or what does it affect?)
- Analyze existing information.
- Make your own observations.
- Formulate an hypothesis to be investigated. (An hypothesis is an idea or a question stated in such a way that it can be tested. For example, "Bread mold will grow faster in a dark place than in a brightly-lighted place."
- Design and carry out an experiment, or seek additional data or observations, to test the hypothesis.
- Organize and evaluate the information obtained.

Goal 3: Career Development (Choose A or B)

You should expand your understanding of careers and career knowledge by investigating specific occupations related to your community experience. You can choose to either examine specific occupations or actually go through the process of preparing to enter an occupation. In either case, choose the focus for your investigation by choosing one of the two options. You may suggest a third option, if these two do not meet your career knowledge needs.

A. You should learn enough about two careers in the field of life science to evaluate them in terms of your own interests, values, goals, and abilities. Your research should include the following:

- The roles and functions of an employee.

B. You should develop career entrance skills in two of the following areas:

- Obtaining and evaluating information about current job openings, training or educational opportunities, and entry requirements.

Table 2b. Life Science Package Goals (Cont.)

- The relation of the career to other careers.
- The qualifications and routes for entry.
- The working conditions, rewards, and benefits of the career.
- The current and projected demand in the field.
- Union or professional affiliations that are desirable or necessary.
- The effect of the job on one's lifestyle.
- Your own evaluation of the career.
- Preparing letters of inquiry, applications, and resume for employment or school entry.
- Preparing for and performing effectively in employment or other admissions interviews.
- Acquiring job-entry skills and experiences in a chosen career field.

Goal 4: Life Science Inquiry
(Choose five)

- Through your study and research, you should learn about and show you can use at least five of the concepts, principles, and relationships listed below. What are the characteristics of life? What is essential to life? How do you decide when a living thing has died?
- What is the relationship between chemical structure and life? What chemicals (DNA and RNA, for example) occur naturally in life forms and in what amount? What is their function?
- What is the law of conservation of energy? How does it affect living things?
- What is the biological classification system? Why is it used? How is it used? What kinds of information is it based on?
- What is a plant? What characteristics do all plants have in common? What distinguishes plants from animals? What are some of the different kinds of plants? How do they differ?
- What are plant life functions? How do plants live and grow? How do they obtain use, and process food? How do they reproduce? What is the relationship between structure and function in plants?
- What is an animal? What characteristics do all animals have in common? What are some of the different kinds of animals? How do they differ?
- What are animal life functions? How do animals live and grow? How do they obtain food? How do their bodies use and process food? How do animals reproduce? What are the differences between the life processes of insects, fish and mammals?
- What is an ecosystem? What are the characteristics of a healthy ecosystem? How does an ecosystem function? What is the relationship between living and nonliving things in the ecosystem?
- What is pollution? How does it affect ecosystems? How does it affect humans? What causes pollution? Can pollution be controlled? How?
- What kinds of things make up an environment? What is the importance of environment to life? What is the difference between environment and habitat? How do organisms adapt and acclimatize themselves to their environment? What is the relationship between environment and heredity? Between environment and behavior?
- What is heredity? What is the relationship between natural selection, mutation, and heredity? How are traits inherited? How and to what extent does heredity affect the life of an organism? What effect does heredity have on behavior?
- What are some theories of evolution? How do they differ? How were they developed? How has the relatively new science of genetics influenced these theories of evolution? How does environment affect the evolution of a species?
- What are the characteristics of human physiology? What is the relationship between human structure and function? What are some similarities between human and anthropoid physiology? What are the differences between male and female physiology?

Table 2b. Life Science Package Goals (Cont.)

• What group structures exist among plants or animals? What are their purposes? What is a population? What is a community? How might the group affect the individual? How might an individual affect the group? What is a symbiotic relationship?	• What factors influence animal behavior? How is behavior described? How do environment and heredity affect behavior? What are some causes of aggressive and submissive behavior? • Other (specify)

Used in the 1970s and 1980s at schools developed by the Far West Laboratory for Education Research and Development, this approach focuses on having students engage in an experiential learning process, where they: develop study/research questions; utilize a conceptual curriculum rubric/matrix that identifies the focus, themes, people, and books/materials to be studied; work with an open form to write curricular goals and learning indicators; and develop an evaluation matrix (for life science) that helps the student, the teacher, and the community sponsors check concepts/subjects covered in the project. The aspects of the service to be provided are developed and the specific learning objectives, readings, and products/outcomes are identified. Time estimates are made for the learning activities, and the total number of credits to be earned is based on time on tasks performed and learning outcomes produced. In this model, curriculum begins with a blank slate—student interest and community activities shape the entire learning plan.

For example, as students work with their field sponsor, they identify the concepts and methods most applicable to a particular topic at their community site. If students were working at a Water Quality Control District, they might explore various concepts and principles such as ecosystems, water quality indicators, microorganisms, and chemistry connected to maintaining clean water. These concepts and principles become the curricular building blocks of the program. Students then learn and master scientific methods, such as observing and recording data, measuring pH of water, identifying and counting microorganisms, and analyzing data. The combination of these activities provides the opportunity for students to learn curriculum content (life and physical science) while learning to do scientific research.

What makes this approach more dynamic than classroom-based models is students come to realize that they also need to study other issues such as the political and business issues related to water pollution, how to regulate polluters, what rights and responsibilities individuals and businesses have in reducing pollution, and even the history of water problems in the local area. All of these subject areas support the service and learning activities and become part of the educational plan for the student. Appropriate

courses for credit are not restricted to science; they now include a variety of areas in social sciences, as well.

The important point here is that the relationship between the student and community becomes a research effort, where theories and hypotheses, understandings and conclusions, are subject to empirical processes. Curriculum and learning are not predetermined; they are created through systematic investigation. The guiding questions for this kind of evaluation research are: what concepts, principles, and methods can be learned at the site, where can they be learned, and how can learning and impact be demonstrated by all stakeholders involved in the project? Attending to these questions provides a foundation for developing the curriculum necessary for both service and learning.

As we see from this example, content of study built from the service experience generally requires subject-matter learning in several areas. James Beane (1995a) contends that the very nature of experiential learning is interdisciplinary, so all curriculum developed from service activities naturally contain more than one content area. The creation of the curriculum is intimately bound to the nature of the research questions developed and problems identified as the questions frame issues to be studied.

OTHER CURRICULUM MODELS

There are many other examples of how to develop course-based and community-based curricula that include evaluation research as an essential part of curriculum development. One good place to start is with the publication, *How to Use Problem-Based Curriculum in the Classroom* (Delisle, 1997). This volume, which does not use the term service-learning, includes several examples of how community problems can become the focus of important learning for students at almost any level. Using the problem-based framework, all learning and curriculum development evolves through an evaluation research format, where issues become the framing component of the curriculum that follows. From elementary to high school settings, Delisle provides detailed examples of how curriculum and evaluation are constructed through research frameworks. The critical point to all these variations is that the learning is intimately connected to community issues and is constantly driven by research questions that identify problems and prescribe the learning required to solve the problems.

CONCLUSION

The goals, purposes, and methods of naturalistic, qualitative evaluation are similar to those of service-learning. Subject matter context arises in two ways through this process: either from an a priori, classroom orientation, or through a community-based perspective where interdisciplinary knowledge is applied. In both cases the students and teachers work closely with community members to help set the agenda and to help shape the learning program. The evaluation process drives the system as students identify the service to be rendered, the knowledge required to deliver it, and the impact on all parties involved with the process.

Service-learning is a special form of experiential learning. Learning from experience is done primarily though a series of actions and reflections on those actions. Learning focus is developed by setting goals—using research questions at the beginning of the experience to provide a context for the learning. Always asking what needs to be done, what can be done, what is being done, and what is being learned from what is done, in a simple way, frames the essence of the service-learning process. In the end, these evaluative research questions guide the curriculum that follows.

REFERENCES

Alliance for Service-Learning in Educational Reform (ASLER). (1993). *Standards of quality for school-based service-learning.* Author.

Bandura, A. (1977). *Social learning theory.* Englewood Cliffs, NJ: Prentice Hall, Inc.

Beane, J. (1995a). Curriculum integration and the disciplines of knowledge. *Phi Delta Kappan, 76,* 616–622.

Beane, J. (1995b). *Toward a coherent curriculum: 1995 ASCD yearbook.* Alexandria, VA: Association for Supervision and Curriculum Development.

Delisle, R. (1997). *How to use problem-based learning in the classroom.* Alexandria, VA: Association for Supervision and Curriculum Development.

Dewey, J. (1938). *Experience and education.* New York: Collier Books.

Giles, D., Honnet, E.P., & Migliore, S. (1991). *A research agenda for combining service and learning in the 1990s.* Raleigh, NC: National Society for Experiential Education.

Honnet, E.P., & Poulsen, S. (Eds.). (1989). *Wingspread special report: Principles of good practice for combining service and learning.* Racine, WI: The Johnson Foundation, Inc.

Kolb, D. (1984). *Experiential learning: Experience as the source of learning and development.* Englewood Cliffs, NJ: Prentice-Hall.

Patton, M.Q. (1986). *Utilization focused evaluation* (2nd ed.). Beverly Hills, CA: Sage.

Patton, M.Q. (1990). *Qualitative evaluation and research methods* (2nd ed.). Newbury Park, CA: Sage.

Shumer, R. (1997). What we've learned from qualitative research." In A. Waterman (Ed.), *Service-learning: Applications from the research* (Vol. 1). Mahwah, NJ: Erlbaum.

Shumer, R., Berkas, T., & Murphy, N. (1992, July). *Describing service-learning: A Delphi study.* Minneapolis: University of Minnesota, Department of Vocational and Technical Education.

Spradley, J.P. (1980). *Participant observation.* New York: Holt, Rinehart, & Winston.

Part IV

IMPACTS OF SERVICE-LEARNING

CHAPTER 10

IMPACT OF SERVICE-LEARNING ON CIVIC ATTITUDES AND BEHAVIORS OF MIDDLE AND HIGH SCHOOL YOUTH

FINDINGS FROM THREE NATIONAL EVALUATIONS

Alan Melchior and Lawrence Neil Bailis

INTRODUCTION

Since the mid-1980s there has been a growing interest in service-learning—the integration of meaningful community service into a structured learning process—as a means of helping young people to develop as active, engaged citizens.[1] The preface of the 1990 National and Community Service Act cites as its primary goal that of "renewing the ethic of civic responsibility," and advocates have pointed to service-learning as a means of creating new generations of active and civically engaged young people.[2] Several recent reviews of the research literature on service-learning have begun to back these claims, bringing together a variety of studies to suggest

that service-learning can have a positive impact on young peoples' civic, academic, social, and career development;[3] and, one of the nation's leading foundations has begun a major national initiative aimed at expanding the use of service-learning in the nation's schools.[4]

As we work to expand the use of service-learning as a tool for enhancing civic engagement among young people, it is important to gain some critical perspective on the strengths and limits of service-learning and also to highlight the importance of program quality as a critical factor in determining the impacts of service-learning on participating youth.

The purpose of this chapter is to summarize and discuss the findings from three major evaluations of national service-learning initiatives and to ask what kinds of conclusions we can draw from them about the value of service-learning as a tool for civic development of young people. The three studies are evaluations of the Serve-America and Learn and Serve programs—two federally-funded initiatives supporting service-learning for school-aged youth—and the Active Citizenship Today (ACT) program, a foundation-sponsored initiative aimed at integrating civic education and service-learning for middle and high school aged youth. All three evaluations were conducted by the Center for Youth and Communities at Brandeis University between 1993 and 1998, and all were similar in basic design, including pre- and post-program surveys and analysis of school record data for participants and comparison group members, as well as onsite interviews and program observations.[5]

All three evaluations also had a number of core measures in common—including measures of personal and social responsibility, service "leadership," attitudes toward diversity, communications skills, and involvement in volunteer service activities. While there are some variations between studies, the commonalities are such that they offer an opportunity to look across evaluations to see what kinds of patterns emerge. It is important to emphasize that this is very much an initial look and not a rigorous, "scientific" comparison. The studies differed in important ways, and we have not attempted to combine or reanalyze the data to make direct comparisons. However, the parallels between the studies offer the opportunity to ask whether there is any consistency in the findings and to begin to draw tentative conclusions about the impacts from service-learning on the civic attitudes and behaviors of participating youth.

BACKGROUND: THE PROGRAM CONTEXT FOR SERVICE-LEARNING

The context for these studies is a series of federal and foundation-sponsored initiatives aimed at increasing the involvement of young people in community service and service-learning.

The first of these was the establishment of the ***Serve-America*** program as a federally-funded initiative under the 1990 National and Community Service Act. The purpose of the program was to support school- and community-based efforts to involve school-aged youth in community service. The program was funded through grants to states, which in turn made grants to local schools and school districts. The major purpose of the program was to support school-based strategies to integrate service into daily school activities—through service courses, integration of service learning into mainstream academic classes, and through development of after-school activities. Serve-America also provided support for community-based efforts and for efforts to build adult volunteer and partnership programs.[6] Serve-America provided approximately $16 million in funding annually for school- and community-based programs.

In 1993, the National and Community Service Trust Act established the ***Learn and Serve*** School- and Community-Based Programs as the successor to the Serve-America program, with relatively minor changes in program design and funding arrangements.[7] Perhaps the major change under the new legislation was an increased emphasis on service-learning as distinct from community service. As defined in the legislation, ***service-learning combines meaningful service in the community with a formal educational curriculum and structured time for participants to reflect on their service experience.*** Service-learning stands in contrast to traditional voluntarism or community service, which generally does not include reflection or links to an organized curriculum. Under the new legislation, funding for school- and community-based service-learning increased to approximately $30 million annually, with roughly 2000 local schools and districts receiving funding every year.

In most respects, the Serve-America and Learn and Serve programs were identical, providing support for a broad array of school- and community-based programs. In both instances the programs had a similar core funding mechanism and a focus on providing hands-on service experiences for school-aged youth. Within that framework, however, local programs varied widely in terms of program structure and scope, the nature and intensity of the service, and the degree to which they were integrated into a structured curriculum or incorporated regular reflection.

The ***Active Citizenship Today (ACT)*** program was established by the Constitutional Rights Foundation and the Close Up Foundation in 1992 under grants from the DeWitt Wallace-Reader's Digest Fund. In contrast to the

national Serve-America and Learn and Serve programs, ACT was an effort to develop and promote a specific service-learning program model that combined civic education with hands-on projects involving local communities. Designed to be integrated into mainstream middle and high school curriculum (primarily social studies classes), ACT builds on a five-part framework that includes research into community issues, policy research, exploration of policy and program options for a selected issue, and development and initiation of an action plan/project aimed at addressing that issue. The ultimate goal of the program is to help students develop a set of civic problem solving skills and to see themselves as active citizens capable of making a difference in their community. The ACT program was initially piloted in seven communities in 1992–95 and then focused on three communities in the second phase of the program's development. Our evaluation focused on the second phase of the program's development, with student impact data from two of the three communities.[8]

EVALUATION METHODS AND MEASURES

The evaluation of the Serve-America program was conducted by Brandeis and Abt Associates as part of a broader evaluation project covering all of the programs established under the 1990 National and Community Service Act. The evaluation took place between 1992 and 1995, with the major focus of the participant impact study on the 1993–94 program year. The evaluation focused on 13 programs in four states (Colorado, Massachusetts, Ohio, and South Carolina) serving middle and high school-aged youth. Nine of the programs were school-based efforts, two were community-based, and two were partnership initiatives jointly operated by schools and community-based organizations. The goal in selecting the programs was to establish a representative group of basic program types, reflecting not only the national mix of school- and community-based sites, but also a mix of program formats, and age/school levels.[9] The participant impact study included pre- and post-program surveys of program participants and participants in comparison classes.[10] Altogether 497 students from the school-based programs participated in the impact analysis (See Table 1 for the samples in all three studies).[11]

The Learn and Serve evaluation took place between 1994 and 1997 and focused on 17 middle and high school-based programs in nine states. Ten of the programs were high school-based, and seven were middle school programs.[12] The major focus of the study was on the 1995–96 school year. As with the Serve-America evaluation, the Learn and Serve study included pre- and post-program surveys and analysis of school record data for a sample of program participant and comparison group members. The study also incor-

porated a one-year follow up that included surveys and examination of school record information for participants and comparison group members in spring 1997. The analysis sample for the 1995–96 school year included 1,052 students; 764 students were included in the follow up sample.

Table 1. Participant Impact Study Analysis Samples

School Level	*Participants*	*Comparison Group*	*Total*
	Serve-America Evaluation		
Middle School	75	87	162
High School	169	166	335
Total	244	253	497
	Learn and Serve Evaluation—Post-Program Analysis		
Middle School	173	146	319
High School	435	298	733
Total	608	444	1052
	Learn and Serve Evaluation—Follow Up Analysis		
Middle School	152	104	256
High School	308	200	508
Total	460	304	764
	ACT Evaluation		
Middle School	163	183	346
High School	135	107	242
Total	298	290	588

The Learn and Serve study was unusual in that rather than looking at a *representative* sample of programs, the Learn and Serve evaluation focused on a set of *"fully implemented"* service-learning programs. The basic goal of the evaluation was to examine the impacts that could reasonably be expected from well-designed service-learning programs that met a basic set of program criteria. All of the programs selected for the study were school-based programs. All had: (1) to be in operation for more than one year when selected; (2) to have higher than average hours of service; (3) to have regular, ongoing written and oral reflection; and (4) to be linked to a formal course curriculum. The 17 programs in the study were selected, based on those criteria, from a pool of approximately 210 programs randomly selected in the nine states. In part, the evaluation was designed to complement the Serve-America evaluation by applying a similar evaluation

approach (assessing many of the same outcomes) to a more targeted sample of programs.

The ACT evaluation began in 1995, and the participant impact analysis focused on the 1996–97 school year. As with the Serve-America and Learn and Serve studies, the ACT evaluation included pre- and post-program surveys of participants and comparison students. In 1997–98, the evaluation also included pilot testing of an open-ended "problem solving exercise" designed in conjunction with ACT teachers and program coordinators and aimed at assessing the application of the civic skills taught through ACT to a realistic case study situations. Five hundred eighty eight participants and comparison group students, drawn from a dozen middle and high schools in Omaha, Nebraska and Jefferson County, Colorado, participated in the pre- and post-program surveys. A smaller number of students in those two communities also participated in the pilot use of the problem solving exercise.[13]

Taken together, the three evaluations offer an unusual opportunity to look at impacts across a range of programs. While there were some differences in the measures used in each of the studies, all three studies (or in some cases two of the three) made use of a core set of common measures aimed at civic attitudes and behaviors. These measures included:

- Sense of personal and social responsibility for the social welfare of others;
- Sense of personal and social responsibility for involvement in community issues;
- Service leadership;
- Acceptance of diversity;
- Communication skills;
- Involvement in community service; and
- Hours of volunteer service during the past six months.

The measures are briefly described in Table 2. The Serve-America and Learn and Serve studies also included measures aimed at assessing program impacts on other academic and behavioral outcomes including attitudes toward school/school engagement, school performance (grades, attendance, suspensions, course failures), and involvement in risk behaviors (self-reported parenting, drug and alcohol use, delinquency, and violence). The ACT evaluation included additional measures of students' self-assessed knowledge of their community, sense of belonging in the community, and attitudes toward teamwork.

Finally, it is important to note that the evaluations differed in the statistical approach used in each study, and those differences do affect the comparability of the results. The Serve-America study used an analysis of covariance approach that adjusted for differences in baseline scores by including those scores as a separate variable in the regression formula. In

Table 2 Outcome Measures Used in the Three Evaluations

Measure/Scale	Description	*Serve Am.*	*L&S*	*ACT*
Social Issues *Search Institute, Personal and Social Responsibility Scale, Social Welfare Subscale*	Student sense of personal and social responsibility for the social welfare of others. Examples: "Taking care of people who are having difficulty…is everyone's responsibility, including mine" or "is not my responsibility." "Helping other people…is something I feel a strong need to do" or "is something I prefer to let others do."	✔	✔	✔
Community Involvement *Search Institute, Personal and Social Responsibility Scale, Community Involvement Subscale*	Student sense of personal and social responsibility to be involved in community issues. Examples: "Being concerned about state and local issues is…an important responsibility for everyone" or "not something in which most people should be involved." "Being actively involved in community issues…is everyone's responsibility, including mine" or "is not my responsibility."	✔	✔	✔
Service/Civic Leadership *Adapted from Sieber, Service-Learning Leadership Scale*	Students' sense that they are aware of community needs, have the capacity to do something to address those needs, and are committed to trying to make a difference now and in the future. Examples: "I believe that I can personally make a difference in my school or community." "I am committed to helping improve my community now and later in life."		✔	✔
Acceptance of Diversity *Adapted from Search Institute, Acceptance of Diversity Scale*	Students' belief in the value of diversity and willingness to work with others who are different from them. Examples: "It bothers me if a classmate is different from me." "I value the opinions of people who are different from me."	✔	✔	✔
Communication Skills *Adapted from Greenberger, Psychosocial Maturity Scale, Communications Subscale*	Perceived communications skills/ability to communicate with others. Examples: "I am not comfortable talking with adults." "I feel comfortable speaking up in class discussions."	✔	✔	✔
Involvement in Community Service	Self-reported participation in at least one type of community service activity in past six months, drawn from a list of eight possibilities. Examples included: working in a homeless shelter, day care, or nursing home; serving as a volunteer counselor, mentor, or tutor; taking part in a community improvement project; being involved in an environmental project; writing a letter to a public official, etc.	✔	✔	✔
Hours of Volunteer or Community Service Work	Self-reported hours of volunteer service during the last half of the school year (January to June).	✔	✔	✔

this approach, baseline scores are treated like other covariates in the regression formula (for example, age, gender, etc.). The "outcome" that is estimated is the post-program score as adjusted for differences in both baseline scores and participant characteristics.

The Learn and Serve study also used this approach for its initial analysis (in part to provide comparability with the Serve-America study). However, in the course of the study, the decision was made to shift to a second method, commonly known as the change score or "difference-in-differences" approach. The change score method adjusts for differences at baseline by calculating the difference between post-program and baseline scores (that is, post program score minus baseline score). In this case the outcome that is estimated is the *difference* in pre- and post-program scores, and the analysis assesses the significance of the differences in change scores for participants and comparison group members.

Among statisticians today, there is some debate as to the relative strengths and weaknesses of the two approaches and when it is appropriate to use each. In general, it is now believed that the first approach (which we refer to as the ANCOVA model) tends to *underadjust* for differences at baseline. As a result, when program participants score higher at baseline (which was the case for a number of the measures in the Learn and Serve study), the ANCOVA model is likely to *overstate* program impacts. (Conversely, when participants score lower at baseline, the ANCOVA model may understate impacts.) The change score model, which adjusts for baseline differences by simply subtracting baseline from post-program scores is now thought to provide a more unbiased estimate. As a result, while the final report on the Learn and Serve evaluation provided results from both types of analyses, the evaluation largely relied on the change score results as a more conservative estimate of program impacts.[14]

Finally, the analysis of the impacts in the ACT study used a basic change score approach, using an independent sample t-test to assess the difference in differences between participants and comparison group members in that study. The decision to use the simpler t-test was made after finding no significant differences in demographic characteristics between program participants and comparison group members.[15]

While the differences in the statistical approaches used make direct comparisons difficult, they are possible. The Serve-America and Learn and Serve studies both provide data using the ANCOVA method, allowing direct comparisons of results, though with the caveat that the Learn and Serve results may overstate actual impacts. Similarly, the Learn and Serve and ACT evaluations both report impacts using the change score approach, again allowing for some direct comparisons. Finally, because there were few significant differences between participants and comparison group members at baseline in the Serve-America study, the ANCOVA results can be

seen as comparable to the change score results in the other studies. Taking the differences in methods and samples into account, the most accurate comparison is probably between the change score results for Learn and Serve and ACT studies and the ANCOVA results for Serve-America.[16]

POST-PROGRAM IMPACTS ON CIVIC ATTITUDES AND BEHAVIORS

Table 3 provides a summary of the post-program impact findings on civic attitudes and behaviors in the three evaluations. The check marks (✔) indicate those measures that showed statistically significant impacts and asterisks (*) indicate the significance levels (.10, .05, and .001); empty cells indicate no significant impacts; and "NA" indicates that the measure was not used in that particular study.

Both the Serve-America and Learn and Serve evaluations show positive, statistically significant impacts on a number of measures of civic attitudes and behaviors. The Serve-America study shows positive impacts among high school-aged participants on attitudes toward social welfare ("Taking care of people who are having difficulty ... is everyone's responsibility"); on communications skills ("I feel comfortable speaking up..."); and on involvement in at least one form of volunteer service and total hours of service. The only statistically significant impact on middle school students is on service hours. The Learn and Serve study (using the change score analysis) shows significant impacts on service leadership (students' self-assessed awareness of community issues, capacity to address those needs, and commitment to making a difference through service) and acceptance of diversity, and on involvement in service and service hours. Under the change score analysis, the middle school impacts from Learn and Serve are limited to an impact on involvement in service.[17]

The results from the ACT program are more limited than those for Serve-America and Learn and Serve. The only statistically significant results among the measures of civic attitudes and behaviors were impacts on communications skills and on service leadership (the latter impact is only significant at the .10 level). Despite the more structured program design and the focus on civic engagement, the ACT program did not appear to have a widespread, measurable effect on the attitudes or behaviors of its participants.

It is important to note that both the Serve-America and Learn and Serve studies also showed a number of other positive impacts on participating youth. In addition to the impacts on civic attitudes and behavior, the Serve-America study found a reduction in absenteeism for high school and middle school participants and an increase in homework hours for middle school participants. The Learn and Serve evaluation (change score analy-

Table 3. Comparison of Post-Program Impacts on Civic Measures from the Serve-America, Learn and Serve, and ACT Evaluations

Civic/Social Measures	*Serve-America (Ancova)*		*Learn and Serve (Ancova)*			*Learn and Serve (Difference-in-Differences)*			*ACT (Difference-in-Differences/ T-Test)*		
	High School	*Middle School*	*High School*	*Middle School*	*All Participants*	*High School*	*Middle School*	*All Participants*	*High School*	*Middle School*	*All Participants*
Personal and Social Responsibility-Social Welfare	✔***		✔***	✔***	✔***						
Personal and Social Responsibility-Community Involvement			✔***	✔***	✔***						
Service Leadership	NA	NA	✔***	✔***	✔***	✔***		✔***			✔*
Acceptance of Diversity			✔***	✔*	✔***	✔*		✔**			
Communications Skills	✔***								✔**		✔**
Involvement in Community Service	✔***		✔***	✔***	✔***	✔***	✔***	✔***			
Hours of Service	✔***	✔**	✔***	✔*	✔***	✔***		✔***			

Note: ✔* indicates a positive impact that is statistically significant at the .10 level; ✔** at the 0.05 level; ✔*** at the .01 level.

sis) found positive impacts on school engagement, math and science grades, and core grade point average. The study also found a significant reduction in teenage pregnancy for the participant group as a whole. High school participants showed positive impacts on school engagement, math and science grades, and a reduction in course failures. Middle school participants saw a positive impact on social studies grades and reductions in arrests and teenage pregnancy. The ACT program also showed an impact at the .10 level on attitudes toward teamwork.

While the general results point toward service-learning having a positive impact on participants, they also raise a number of questions and cautions in terms of service-learning's use as a tool for building civic attitudes and increasing young people's civic participation.

First, the impacts on participants' attitudes are relatively modest in scale. Even using the ANCOVA method, the impact on measures of personal and social responsibility, diversity, and service leadership in the Serve-America and Learn and Serve studies (in terms of the average differences in scale scores) ranges from 2 to 5 percent. The largest attitudinal impact—on the measure of service leadership—ranges from 5 to 8 percent depending on the model used. In part, this may reflect the limitations of this type of measure—in many cases students may provide the "socially correct" answers to these questions. But it also reflects the fact that most young people begin with a fairly well-developed sense of civic responsibility—all the scores are high at baseline. In that regard, service-learning programs might best be understood as strengthening or reinforcing students' generally positive attitudes rather than building a positive set of attitudes from scratch.

Second, the average service-learning program appears more likely to have an impact, and to have a more substantial impact, on those attitudes and behaviors directly related to the service-learning experience, and to have less of an impact on broad social values. It is striking that with the exception of the high school students in the Serve-America study, there were no significant impacts on the broad measures of personal and social responsibility in any of the studies. In contrast, even the ACT program, which had few statistically significant impacts, appeared to increase students' sense of service leadership. Of all the measures in the studies, service leadership (which asks about students' awareness of community issues, capacity to develop a project, and commitment to trying to make a difference) focuses most directly on service-related attitudes and skills—that is, the kinds of attitudes and skills that are closely tied to the actual service-learning experience. In that regard, it not surprising that it is the measure that most consistently shows an impact.[18]

In a simple sense, the results remind us that the more closely tied an outcome is to the core service-learning experience, the more likely we will

see a measurable result. But they also help to highlight the converse conclusion that: to the extent we want young people to gain a particular set of knowledge, skills, or values through service-learning, we need to make sure that the experience is shaped to support those outcomes. As Westheimer and Kahne (2000) have pointed out, for example, service-learning programs can be shaped to promote a variety of different civic attitudes and skills, ranging from programs encouraging simple voluntarism and community involvement, to those promoting a more critical understanding of social issues and a commitment to civic activism.[19] Their work, and the data here, suggest that, to the extent that we hope to use service-learning to promote civic engagement or youth activism, we need to make sure that the service-learning activities incorporate those kinds of experiences. In effect, the data support the common sense conclusion that the clearer the connection between the experiences provided for participating young people and a program's goals, the more likely the program is going to show the intended impact.

Finally, it is important to note that both the Serve-America and Learn and Serve studies found fewer impacts for middle school-aged youth than for high school students. One possible explanation is that the tools used in these evaluations simply do not work for younger, middle school-aged youth. In that regard, it is important to note that most of the instruments used in service-learning research have not been extensively validated. But the data from the programs and discussions with teachers and program staff also suggest that service-learning programs in the middle schools may not provide a sufficient hands-on experience for participants and that teachers need to make better connections (through classroom discussions, student assignments, etc.) between the service experience and the broader concepts and ideas that they want participants to grasp. As one rough measure of intensity, participants in the middle school programs in the Serve-America and Learn and Serve studies were involved in approximately 40 percent fewer hours of service than their counterparts in the high school programs.[20]

PROGRAM QUALITY AND INTENSITY

The data from the three evaluations also help to highlight, both directly and indirectly, the intensity and quality of the program experience as factors in determining the impact of service-learning. While service-learning "in theory" can be expected to have a variety of impacts, program design and implementation play a major role in the degree to which theory plays out in practice.

The issue of the intensity of the program experience is raised in several ways through the evaluations under discussion here. The first has already

been mentioned: the substantial difference in direct service hours between the high school and middle school programs in Serve-America and Learn and Serve may account for much of the difference in program impacts between the older and younger students. As noted previously, high school participants on average had approximately 40 percent more direct service hours than participants in middle school programs. As a result, middle school participants had substantially less time on task for learning and may have experienced less of an impact as a result.

Time on task was also limited in the ACT program. One of the major findings of the ACT evaluation was that many of the teachers involved in the program struggled in their efforts to integrate the ACT process into their classes, either because of a mismatch with the content of their curriculum or competing demands on class time. As a result, a substantial proportion of the ACT teachers failed to complete the action portion (i.e., service project) of the ACT framework. Even where students were involved in action projects, the hours of direct student involvement in the community were limited. While nearly 90 percent of the ACT projects completed some form of community assessment and research on community problems (the first two elements of the framework), only 55 percent completed the "action" or community project component of the program. On average, teachers reported that students spent less than 10 hours outside of class working on ACT, and an average of only 13 hours in the classroom. Put another way, over an 18–20 week semester, students were likely to spend less than an hour and a half a week on the program, including less than one half hour per week involved in a community project. This contrasts with the 30 to 60 hours of direct service (exclusive of classroom time) for the students in Serve-America and Learn and Serve programs (Table 4).

Table 4. Reported Direct Service Hours for Participants in the Serve-America, Learn and Serve, and ACT Evaluations

School Level	*Serve-America*	*Learn and Serve*	*ACT*
High School	64	60	NA
Middle School	36	35	NA
All Programs	43	45	10

In this context, the difference in impacts between ACT and the Serve-America and Learn and Serve programs may more likely reflect the difference in the implementation of the programs and the intensity of the program experience than in the design of the program *per se*. While it is not clear what the threshold might be, the ACT experience does suggest that service-learning programs need to provide some substantial level of direct, hands-on experience for measurable impacts to take place.

The relationship between the quality of the service experience and program impacts was also addressed directly in the Serve-America evaluation with striking results. As part of that study, program participants were asked to assess their program experience in terms of a number of quality indicators or benchmarks. These included the degree to which they had real responsibilities, challenging tasks, opportunities for discussion and reflection, relationships with adults at their service site, and the like.[21] The list of indicators and responses is shown in Table 5. The impacts from the high school programs with above average ratings on these indicators were then compared with those for the lower scoring programs. On 7 of the 12 measures in the analysis—involvement in service, number of different types of service, hours of service, personal and social responsibility, communications skills, work orientation, and school attendance—the programs that scored higher on the program experience scale had positive impacts that were significantly larger than those in the lower rated programs (see Table 6).

It seems likely that as we continue to research service-learning we will learn that program impact is related to a constellation of implementation factors—the quality and intensity of the service experience, the nature of the reflection process, the relationship between the type of service and the goals of the program, etc. The point here is not to pinpoint service hours or the quality of service experience as the one key. It is to note that it is important to examine the inputs as well as the outputs when talking about

Table 5. Characteristics of Service Experience (Serve-America) (Percent responding "very often" or "fairly often")

Characteristics	*High School (Percent)*	*Middle School (Percent)*
Had real responsibilities	54.3	60.2
Had challenging tasks	67.5	45.6
Made important decisions	65.0	38.8
Discussed my experiences with teachers	52.9	42.7
Did things myself instead of observing	53.8	46.6
Had freedom to develop and use my own ideas	53.8	48.5
Discussed my experiences with family and Friends	46.2	48.5
Adults at site took a personal interest in me	59.4	38.8
Had freedom to explore my own interests	59.4	34.0
Had a variety of tasks to do at site	54.8	44.7
Needed more help from my supervisor	28.9	24.3
Adults criticized me or my work	12.7	15.5
Felt I made a contribution	41.1	54.4

Table 6. Test of Variation of Impact for High and Low Scoring Programs on Service Experience Scale

Outcome	*Difference in Impact*
Involved in Community Service	✔**
Number of Types of Community Service	✔***
Hours of Service	✔***
Educational Competence	
Personal and Social Responsibility-Social Welfare	✔***
Personal and Social Responsibility-Community Involvement	✔*
Communications Skills	✔***
Work Orientation	✔***
Cultural Diversity	
Grade Point Average	
School Attendance (Days Absent)	✔**
Failed One or More Courses	
Use of Drugs or Alcohol, Fighting, or Teen Parenting	

Note: ✔* indicates a positive impact that is statistically significant at the .10 level; ✔** at the 0.05 level; ✔*** at the .01 level.

the impact of service and to recognize once again the critical role that program quality and design have in determining impacts on young people.

THE LONGER-TERM IMPACTS FROM SERVICE-LEARNING

Finally, to the extent that we are looking at service-learning as a way of building a lifelong commitment to service and involvement in the community, what do we know about the longer-term impacts from service-learning? To what extent do service-learning programs generate lasting impacts on participating youth, and what are we beginning to learn about more and less effective program strategies?

One of the major elements of the Learn and Serve evaluation was an effort to look at the longer-term impacts of service-learning through a one-year follow up study of program participants and comparison group members. The follow up study included surveys of program participants and comparison group members in spring 1997, one year after the initial program participation, as well as analysis of school records for those young people still in middle and high school during the 1996–97 school year. For the follow up, 764 participants and comparison group students were able to be contacted, representing 72 percent of the original analysis sample (see Table 1).

The results from the Learn and Serve follow up analysis suggest that one-time involvement in service-learning programs is unlikely to generate long-term impacts on young people—a variation on the adage that "short-term programs yield short term results." At the same time, young people who continue their involvement in service-learning are significantly more likely to continue to show impacts over the longer-term.

Tables 7 and 8 summarize the results from the follow up study. As shown in Table 7, one year after the end of the initial program experience most of the impacts found at the end of the program had begun to fade. Where there had been strong positive impacts on service leadership, attitudes toward diversity, service involvement, and hours of service among the Learn and Serve participants as a whole and the high school participants, the follow up found only marginally significant impacts on service leadership among the participants as a whole and on service leadership and hours among high school students. Impacts on measures of academic and social development had also declined, with the follow up showing only marginal impacts on school engagement and science grades among participants as a whole and on high school students, and a continued impact on arrests for middle school participants.

Table 7. Summary of Participant Impacts at Follow Up (Learn and Serve)

	Post-Program Impacts	*Impacts at Follow Up*		
Outcome	*All Participants*	*All Participants*	*High School Participants*	*Middle School Participants*
Service Leadership	✔***	✔*	✔*	
Acceptance of Diversity	✔**			
Involvement in Community Service	✔***			
Service Hours	✔***		✔*	
School Engagement	✔***	✔*		
Math Grades	✔***			
Science Grades	✔*	✔*	✔**	
English Grades		–	–	
Core Grade Point Average	✔*			
Arrested in Last 6 Months				✔*
Ever Pregnant or Made Someone Pregnant	✔*			

Note: ✔* indicates a positive impact that is statistically significant at the .10 level; ✔** at the 0.05 level; ✔*** at the .01 level. – indicates a negative impact (at the .05 or .01 level).

However, when the results are broken out between those students who continued their participation in service-learning in the follow up year ("repeaters") and those who did not ("non-repeaters"), two additional points emerge. The first is that students who continued their involvement in service-learning were substantially more likely to show some program impacts over the course of the follow up year, and the second is that without that continued involvement, almost all of the post-program impacts were likely to disappear. Students who continued their involvement in service-learning showed strong, statistically significant impacts on three outcomes at follow up: service-leadership, hours of service, and school engagement, and more marginal impacts (at the .10 level) on three additional measures: involvement in at least one type of service, educational aspirations, and reduction in alcohol use. The only impact for the non-repeaters was a marginally significant impact on science grades.

Table 8. Participant Impacts at Follow Up for Repeaters and Non-Repeaters (Learn and Serve)

Outcome	*All Participants*	*Repeaters*	*Non-Repeaters*
Service Leadership	✔*	✔**	
Involvement in Service		✔*	
Hours of Service		✔**	
School Engagement	✔*	✔**	
Science Grades	✔*		✔*
English Grades	–	–	
Educational Aspirations (Want to Graduate 4-Year College or Beyond)		✔*	
Consumed Any Alcohol in Last 30 Days		✔*	

Notes: ✔* indicates a positive impact that is statistically significant at the .10 level; ✔** at the .05 level; ✔*** at the .01 level. – indicates a negative impact (at the .05 or .01 level).

One of the more striking and puzzling findings for the follow up analysis was a negative impact on English grades that was statistically significant for the participant group as a whole and for the high school participants. The finding is particularly puzzling because the impacts on most academic measures tended to be positive (for example, on school engagement, math and science grades). It is also worth noting that English grades for participants in the follow up were substantially higher than those for the comparison group members at baseline, and while they declined in relative terms, they remained higher than comparison group grades at follow up despite the drop.

There are several possible explanations for this particular result. The first is that it is a statistical artifact—evidence of the fact that, given enough sets of calculations, some results will be statistically significant solely by chance. Given that there are no other statistically significant negative findings in the study, this is a possibility worth considering.

The alternative is to recognize that, while students involved in service may become more engaged in school and, as a result, do better in those classes in which they normally struggle (e.g., math or science), their involvement in service may lead them to "coast" a little more in those courses in which they are already doing well. For those students, the other benefits of service—in terms of their sense of civic involvement, their increased sense of self worth, or the opportunities to explore career options—may be worth a one-half grade decline in one of their courses. The idea that service may distract students from their schooling has always been a concern for the critics of the service-learning movement. However, the fact that the decline in English grades is accompanied by a positive impact on science grades and school engagement suggests that it should not be seen as evidence that involvement in service has a negative impact on school performance. Rather, the results suggest that service-learning is likely to provide a small benefit or, at worst, have little positive or negative impact on academic performance at all.

It is important to recognize the limits to the follow up findings. In particular, we know very little about students' program experiences during the follow up year or why a student continued in service-learning or not. As such, we need to be cautious in interpreting the results. But the data do suggest that students who continue their involvement in service are more likely to show significant gains from their service experience, and that short-term, one-time involvement in service-learning is unlikely to produce strong, lasting results. The implication, at least at this point in time is that service-learning needs to take place on an ongoing basis if it is to lead to longer-term impacts on participating youth.

CONCLUSIONS

What are the implications of these three studies as we consider the challenge of "fostering youth's civic engagement and participation in free and democratic societies?" The first is that service-learning can play a role in meeting that challenge, by providing young people with meaningful experiences as active and effective citizens and by helping to build the knowledge and skills that young people need to identify issues in their community and act on them. At the very least, all three programs have helped young people feel more confident in their ability to identify issues,

work with others, organize and take action, and build a commitment to participation over the longer term. Service-learning programs have also involved young people in more substantial and sustained service experiences than they would have engaged in on their own. The data from the Learn and Serve study suggest that, when sustained over time, that experience can lead to a lasting impact on attitudes and behavior.

At the same time, it is clear that to ensure achievement of even these modest impacts, we need to look carefully at the quality of the experiences we offer young people and recognize that service-learning programs need to be well and fully implemented if they are to generate the results we want. As researchers, the results from these studies suggest that we pay more attention to program design and implementation (inputs) in our research as well as to outcomes. In order to do that, we need to begin to define reliable measures of the nature and quality of the service-learning experience itself. The studies also suggest that we need to invest more in learning about the impacts of long-term involvement in service-learning (how do the impacts from a multiyear sequence differ from those of short-term programs) and the longer-term results of service-learning itself (to what extent do impacts persist, grow, or fade over time). As we begin to answer those kinds of questions, we should gain a much better understanding of how best to structure service-learning programs and the kinds of impacts on civic attitudes and behaviors that we can reasonably expect.

NOTES

1. A version of this paper was originally presented at a conference on "Fostering Youth's Civic Engagement and Participation in Free and Democratic Societies," at Brown University, June 15–17, 2000.

2. There are a number of useful introductions to service-learning and the national legislation. These include the first annual report of the Commission on National and Community Service (1993); Kendall and Associates (1990); *Visions of Service, 1993;* and the June 1991 and May 2000 issues of *Phi Delta Kappan*, both of which focus on service-learning.

3. See the recent literature reviews by Shelley Billig (2000), and by Anderson (1998). Also see an earlier review of the research on service-learning by Conrad and Hedin (1991).

4. The W.K. Kellogg Foundation has established the Learning In Deed initiative, a four-year, $13 million national initiative to broaden the use of service-learning in school districts across the country. The initiative includes a five state demonstration project, formation of a national stakeholders network, a national commission, and a service-learning research network.

5. The Center for Youth and Communities was formerly known as the Center for Human Resources. The full reports are available from the authors at the Center

for Youth and Communities, Brandeis University. The reports are: Bailis and Melchior (1998), Melchior and Orr (1995), and Melchior et al. (1998).

6. The Serve-America program was one of four major service programs established under the 1990 legislation. The others were the Higher Education Innovative Projects, which aimed at increasing use of service learning in higher education institutions; the American Conservation and Youth Service Corps programs, which supported summer and year round Corps initiatives for in-school and out-of-school youth; and the National and Community Service Demonstration Models, which were designed to demonstrate potential models for national service.

7. The 1993 legislation also placed the higher education programs under the "Learn and Serve" name and established the AmeriCorps program as a major, national service initiative.

8. The three communities in phase II of ACT were Jefferson County, Colorado; Jackson, Mississippi; and Omaha, Nebraska. The evaluation focused on student impact data from Jefferson County and Omaha.

9. Program format included stand-alone service-learning courses, programs that integrated service-learning into mainstream academic classes, and after-school service programs. The sample also included a mix of middle and high school-based programs. Five of the programs served middle school youth and seven served high school-aged participants.

10. In all three of the studies, comparison group members were generally students in similar types of classes in the same school (e.g., core academic or elective courses, for example), matched as closely as possible with participants in terms of demographic characteristics (age, gender, race/ethnicity, etc.) and academic status. In cases where program activities were schoolwide, the comparison groups were drawn from similar schools in the same or neighboring communities.

11. Four of the programs in the study did not participate in the participant impact analysis. One was one of the adult volunteer programs (a mentoring program) that focused on adult service; the others were the two community-based programs and one school-based program where it proved impractical to establish an appropriate comparison group.

12. The nine states were California, Florida, New Mexico, New York, North Carolina, Ohio, Pennsylvania, Texas, and Wisconsin.

13. See the final report for the ACT evaluation for more discussion of the problem solving exercise.

14. It is important to note that when there are no significant differences in the outcome measures at baseline, the two methods produce roughly equivalent results. This issue is discussed in detail in Appendix B of the Final Report for the Learn and Serve Evaluation. Two publications that provide excellent discussions of these issues are: Judd and Kenny (1981), especially Chapter 6; and Allison (1990, pp 93–114).

15. It is worth noting that we did also examine the ACT data using a more sophisticated regression approach comparable to the ANCOVA model with no substantial differences in results, reinforcing the point that where there are no major differences at baseline between participants and comparison group members, the two approaches are largely equivalent.

16. There were relatively few statistically significant differences on key outcome measures between participants and comparison group members at baseline in the Serve-America study. As such, the results from the ANCOVA analysis should be similar to those that would have been generated if the change score model had been used.

17. When the more "liberal" ANCOVA analysis is used, the Learn and Serve programs show a broader set of impacts, with statistically significant impacts on all of the measures of civic attitudes and behaviors except communications skills. Similarly, under the ANCOVA analysis, middle school students in the Learn and Serve programs show significant impacts on most of the measures of civic attitudes and behaviors.

18. The impact on communications skills in the ACT study tends to reinforce this point. Students in that program were expected to make telephone calls, conduct interviews with local officials and other adults, and to make presentations. In that regard, the impact results reflect a key focus of the program activities.

19. See Westheimer and Kahne (2000).

20. In both the Serve-America and Learn and Serve programs, high school programs reported an average of 60–65 hours of service per participant; middle schools reported an average of 35–36 hours per participant.

21. These questions are based on the Service Experience Scale from Conrad and Hedin (1981).

REFERENCES

Allison, P. (1990). Change scores as dependent variables in regression analysis. *Sociological Methodology, 20,* 93–114.

Andersen, S.M. (1998) *Service-learning: A national strategy for youth development.* A position paper issued by the Education Policy Task Force, Institute for Communitarian Policy Studies, George Washington University.

Bailis, L.N., & Melchior. A. (1998). *Evaluation of the active citizenship today (ACT) program: Final report.* Prepared for the Close Up Foundation and the Constitutional Rights Foundation. Waltham, MA: Center for Human Resources, Brandeis University.

Billig, S. (2000, May). Research on K-12 School-Based Service-Learning: The Evidence Builds. *Phi Delta Kappan, 81*(9), 658–664.

Commission on National and Community Service. (1993). *What you can do for your country.* Washington, DC: Author.

Conrad, D., & Hedin, D. (1981). *National assessment of experiential education: Final report.* St. Paul, MN: Center for Youth Development and Research, University of Minnesota.

Conrad, D., & Hedin, D. (1991, June). School-based community service: What we know from research and theory. *Phi Delta Kappan,* 743–749.

Judd, C., & Kenny, D. (1981). *Estimating the effects of social interventions.* New York: Cambridge University Press.

Kendall, J. and Associates (1990). *Combining service and learning: A resource book for community and public service.* Raleigh, NC: National Society for Internships and Experiential Education.

Melchior, A. (1998). *National evaluation of learn and serve-America, school and community-based programs: Final report.* Prepared for the Corporation for National Service. Waltham, MA: Center for Human Resources, Brandeis University.

Melchior, A., & Orr, L. (1995). *Final report: Impacts of serve-America (Subtitle B1).* Prepared for the Corporation for National Service. Cambridge, MA: Abt Associates.

Visions of service: The future of the national and community service act. (1993). Washington, DC: National Women's Law Center and the American Youth Policy Forum.

Westheimer, J., & Kahne, J. (2000, April). *Assessment and the democratic purposes of schooling.* Paper presented at the American Educational Research Association, New Orleans, LA.

CHAPTER 11

SERVICE-LEARNING IN TEACHER EDUCATION

A CONSIDERATION OF QUALITATIVE AND QUANTITATIVE OUTCOMES

Susan Root, Jane Callahan, and Jungsywan Sepanski

INTRODUCTION

In the last decade, a growing number of institutions have incorporated service-learning into their teacher education programs (Erickson & Anderson, 1997). This trend is supported by studies that have linked service-learning to several dispositions and skills needed for effective teaching. For example, characteristics associated with culturally responsive teaching such as sensitivity to diversity issues appear to be strengthened by service-learning with diverse populations (Boyle-Baise, 1998; Siegel, 1994; Tellez, Hlebowitsh, Cohen, & Norwood, 1995; Vadeboncoueur, Rahm, Aguilera, & LeCompte, 1995). Investigators have also documented impacts for service-learning on attributes of an "ethic of care" (Noddings, 1988), such as compassion and concern, willingness to serve others and complexity of thinking about problems of childhood (Flippo, Hetzel, Gribonski, & Armstrong, 1993; Potthoff, Dinsmore, Walsh, Zicbarth, & Eifler, 2000; Root & Batchelder, 1994). Finally, service-learning in teacher preparation is associated

with increased intent to use this approach in candidates' future teaching (Wade et al., 1999).

While these results are promising, a number of gaps characterize the knowledge base on service-learning in teacher education. The majority of investigations have utilized qualitative approaches to study a single course. Although these investigations have yielded in-depth insights into pre-service teachers' responses to service-learning, they have limited generalizability. Researchers have also made little effort to align the variables examined in quantitative investigations of service-learning in teacher education and the interpretive categories which have emerged from qualitative studies. Finally, the majority of both quantitative and qualitative studies have utilized a simple input-output design, neglecting the potential moderating influences of attributed of pre-service teachers and their service experiences.

The purpose of this study was to address some of these gaps in the research on service-learning in teacher education. The study was a multisite investigation of service-learning in several teacher preparation programs. It extended an investigation by Root, Callahan, and Sepanski (2000) of the effects of service-learning within these programs on pre-service teachers' teaching efficacy, commitment to teaching, service ethic of teaching, and acceptance of diversity, as well as their intent to engage personally in community service in the future and to utilize service-learning in their own classrooms. Additionally, Root and colleagues sought to determine the contribution of pre-service teacher and service experience characteristics to the outcomes. Results of Root et al.'s study revealed significant effects for service-learning on participants' acceptance of diversity, attitude regarding the importance of teachers' ability to bring about social change, and participants' intent to incorporate service-learning into their future teaching. Additionally, several characteristics of candidates and of the service-learning experience emerged as moderating variables. For example, participants with a more extensive history of high school service made greater gains than others in their acceptance of diversity. Teaching candidates who had provided service to disabled individuals, and those who assisted a teacher with a service-learning project, made significantly greater gains than others in their acceptance of diversity and intent to use service-learning in their own classrooms.

In addition to addressing omissions in research on service-learning in teacher education, a second purpose of the present study was to extend Root et al.'s investigation by analyzing the impacts of service-learning on qualitative measures of pre-service teacher change. Researchers also sought to isolate the contributions of features of candidates and service experiences to these qualitative outcomes and to determine the relationships between qualitative and quantitative measures of teacher change. Specifically, the study sought to answer the following questions:

1. What effects does service-learning within teacher education have on pre-service teachers' perceptions of students as assessed by a qualitative, self-report measure?
2. What effects does service-learning have on pre-service teachers' perceptions of teaching as assessed by a qualitative, self-report measure?
3. What characteristics of their service-learning experience predict whether pre-service teachers will report a change in their perceptions of students and teaching?
4. How does pre-service teachers' performance on quantitative and qualitative outcome measures compare? That is, what relationships exist between pre-service teachers' scores on qualitative, self-report measures of change and objective measures, such as scales of teaching efficacy or attitude toward diversity?

As described below, this study utilized quantitative and qualitative methodologies to investigate each of the research questions. Building on a previously published discussion of the study's quantitative findings, this paper presents the findings that resulted from the study's qualitative analyses.

METHODS

Subjects

Participants were 214 education students from six teacher education programs that included service-learning and were associated with the National Service-Learning in Teacher Education Partnership. Subjects had been part of a larger study of service-learning in teacher education conducted by the present authors involving 442 students. Fifty-eight percent of participants were female and 42 percent male; 89 percent were of Caucasian ethnicity, while 5 percent were African American, and 6 percent of Hispanic, Asian American, or another ethnicity. Eighty percent of the participants were seeking elementary certification; 16 percent, secondary, and 4 percent another type of certification. A large majority of pre-service teachers in this study had prior community service experience.

Instruments

Pretests measured teaching candidates' characteristics including demographic characteristics and history of service. Both the pre and posttests measured variables of interest to investigators including teaching efficacy,

commitment to teaching, intent to personally participate in service and intent to integrate service-learning into future teaching.

Teaching Efficacy

Teaching efficacy has been defined as a teacher's belief in his or her ability to influence student achievement (Berman, McLaughlin, Bass-Golod, Pauly, & Zellman, 1977). Studies have identified two components of teaching efficacy: General Teaching Efficacy (GTE) and Personal Teaching Efficacy (PTE) (Armor et al., 1976; Gibson & Dembo, 1984; Hoy & Woolfolk, 1993). General Teaching Efficacy refers to a belief in the power of schools and teachers to effect learning in spite of external deterrents to achievement. Personal Teaching Efficacy is defined as the teacher's confidence that he or she personally has the skill to overcome barriers to student learning. Teachers with higher efficacy scores show greater effort, willingness to implement innovations and commitment to teaching, and have students with higher achievement (Ashton & Webb, 1986; Coladarci, 1992; Glickman & Tamashiro, 1982; Smylie, 1988). Bandura (1997) has postulated that efficacy expectations are influenced by several sources of information including experiences of success and social persuasion (e.g., feedback). To the degree that service-learning provides prospective teachers with opportunities to successfully apply teaching skills and receive feedback on them, these experiences would be expected to enhance teaching efficacy.

In this study, teaching efficacy was assessed using two items from a Rand study of effective teaching (Armor et al., 1976). The measure of Personal Teaching Efficacy was, "As a teacher I believe that if I try really hard, I will be able to get through to even the most difficult or unmotivated students." General Teaching Efficacy was assessed using the item, "When it comes right down to it, a teacher really can't do much because most of a student's motivation and performance depends on his/her home environment" (reverse scored).

Commitment to Teaching

Commitment to teaching can be defined as "A teacher's psychological attachment to the teaching profession" (Coladarci, 1992, p. 326). Commitment to teaching is highly correlated with retention in the profession, while weak commitment has been linked to withdrawal at several important milestones; for example, failure to enter teaching following certification (Schletchy & Vance, 1983). Given recent major teacher shortages, the process by which pre-service teachers develop a commitment to teaching is an important concern of teacher education programs.

Serow, Eaker, and Ciechalski (1992) found that professional orientations to teaching, including the perception of teaching as a calling, desire to help others, and the perceived legitimacy of the sacrifices associated

with a teaching career, predicted pre-service teachers' commitment to teaching better than more tangible professional incentives such as teaching schedules. Service-learning, because it allows candidates to express their wish to assist others and encounter the positive consequences of their actions, would be expected to strengthen commitment to teaching. In this study, a single Likert-type item was used to measure commitment to teaching: "At this point in time, I am _____ about my choice of teaching as a career " ("very unsure" to "very sure").

Attitudes Toward Diversity

Ensuring that pre-service teachers have the competence to create culturally responsive practice is a major responsibility of teacher education programs (Wade, Boyle-Baise, & O'Grady, 2001). A number of studies have demonstrated positive effects for service-learning on pre-service teachers' attitudes toward and knowledge about multiculturalism. For example, candidates who complete service with culturally different populations show greater awareness of diversity and reduction in personal biases (Beyer, 1991; Boyle-Baise, 1998; McKenna & Ward, 1996; Potthoff et al., 2000; Seigel, 1994; Tellez et al., 1995; Vadeboncoueur et al., 1995). Through service-learning, pre-service teachers also become more aware of the need to adapt curriculum and methods to the needs of diverse youth (Boyle-Baise, 1998; McKenna & Ward, 1996; Siegel, 1994; Tellez et al., 1995).

In this study, a subscale from the Cultural Diversity Awareness Inventory (Henry, 1991) was used to assess candidates' attitudes toward diversity. Respondents rated their degree of agreement on a five-point scale (from "Strongly Agree" to "Strongly Disagree") with several statements that completed the stem, "I believe..." The statements included: "...my culture to be different from one of the children I serve," "...it is important to identify immediately the ethnic groups of the children I serve," "...I would prefer to work with children and parents whose cultures are similar to mine, " "...I would be uncomfortable in settings with people who speak a different English dialect than myself," and "...I am uncomfortable with people who exhibit values or beliefs different from my own."

Service Ethic of Teaching

A commitment to one's clients and profession or service ethic are common to many fields. Serow and colleagues (1992) found that the service ethic of teaching, the satisfaction that can be obtained from working with young people and a desire to work on their behalf, was a key incentive for entering the profession.

The present investigation used two measures adapted from Serow et al. (1992; and Serow, Eaker, & Forrest, 1994) to assess changes in participants' service ethic of teaching. On one, subjects ranked the three reasons that

were most influential in their decision to teach out of a list of 13 which included, for example, "Family members were teachers" and "The schedule is attractive." Of special interest to this study were four items which seemed to reflect a service ethic of teaching, specifically, "I like helping people"; "I like working with young people"; "Teachers can bring about social change"; and "Teaching is a calling."

A second measure asked participants to rank order the desirability of four qualities in teachers: "Strong interest in shaping values and beliefs," "Strong interest in a particular subject," "Strong interest in individual students," and "Strong interest in correcting social problems." Of special concern were scores on the last two items.

Commitment to Future Personal Involvement in Service

Eyler and Giles (1999) identify intent to participate in service ("I must and will do ") as one of five elements of active citizenship. Studies indicate that students who engage in service-learning in college experience increased intent to serve (Astin, Voglegesang, Ikeda, & Yee, 2000; Eyler & Giles, 1999; Stukas & Clary, 1998). In the present investigation, intent to participate in future service was assessed using the Likert-type item, "How likely is it that you will participate in community service activities once you enter the teaching profession?" ("Very likely" to "Very unlikely.")

Intent to Use Service-learning in Future Teaching

The increased popularity of service-learning in P-12 settings (preschool through 12th grade) has brought a call for teachers willing and able to implement this method. An important question in research on service-learning concerns the types of preparatory experiences that will enable teachers to implement service-learning in their own practice. Wade and her colleagues (1999) studied beginning teachers whose teacher education programs had included service-learning. They found that 68 percent reported an intent to use this approach in the future. Multiple regression analyses revealed several predictors of teachers' commitment to use service-learning:

- Responsibility for implementing a service-learning project during teacher preparation;
- Positive perception of their college service-learning experiences;
- Average class size in respondents' current schools;
- Prior implementation of service-learning;
- Months of full time teaching;
- The presence of a service-learning program in respondents' schools; and
- The availability of funding for service-learning projects.

In the present study, pre-service teachers' intent to utilize service-learning was assessed using a six-item scale. Two items elicited participants' plans to engage their future students in political and social activism ("Political issues or social causes that affect your community," and "Contacting public or elected officials to tell them their views..."). Two others concerned outreach to people in need ("Programs to help others in need...." and "Organizing projects to help others..."), while the remainder addressed environmental service ("Environmental projects" and "Actively supporting efforts to protect the environment"). Outcomes included the likelihood that respondents would utilize each type of service, as well as total intent to incorporate service-learning.

Qualitative Measures

Two questions asked participants to report whether their views of students and teaching had changed or not changed during the service-learning experience and to explain their responses:

1. Please answer either Part A or Part B (whichever option applies more to you).
   A. Some teachers come to feel differently about students as a result of their service-learning experiences. How have your feelings about students changed?
   B. Other teachers do not come to feel differently about students. What reasons might explain why your views of students were not affected by your service-learning experience?

2. Please answer *either* Part A or Part B (whichever option applies more to you).
   A. Some people come to feel differently about *teaching* as a result of their service-learning experiences. In what ways have your views about teaching changed?
   B. Other people do not come to feel differently about teaching as a result of their service-learning experiences. What reasons explain why your views about teaching were not affected by the service-learning experience?

Student Characteristics and Aspects of the Service-learning Experience

In addition to these measures, the posttest included questions pertaining to characteristics of participants' service-learning experience. Respondents (pre-service teachers) reported on the type of service in which they had engaged and the population served. Pre-service teachers who had assisted a K-12 teacher with a service-learning project estimated the percent of responsibility they had for: (a) planning the project and (b) project

implementation. On an Aspects of the Service Experience scale, adapted from Eyler and Giles (1999) and Batchelder and Root (1994), subjects indicated their perceptions of qualitative dimensions of the service-learning project including the level of challenge, autonomy and support they experienced, relevance of the project to teaching, opportunity to work with diverse individuals, and amount and type of reflection.

Procedures

Teacher educators at several institutions participating with the National Service-Learning in Teacher Education Partnership were contacted in fall 1998 about their willingness to participate in the study. Those who agreed received surveys and informed consent forms two months prior to the anticipated date of administration. Participating faculty administered pre- and posttests on the first and last day of their classes in the spring 1999 semester. All faculty were asked to request that students complete all objective items on the survey. Faculty were given the option of asking their classes to complete the qualitative items.

Data Analysis

Prior to analyzing the results, the Aspects of the Service-Learning Experience scale was subjected to factor analysis, using principal components analysis followed by varimax rotation. Four factors emerged from the analysis. Five items loaded highly on the first: (1) "Had challenging tasks" (.67); (2) "Could make important choices about important aspects of the service-learning experience" (.50); (3) "My service-learning project helped my learn more about being a teacher" (.73); (4) "Class discussions helped me reflect on and learn from my service experience" (.62); and (5) "My service activity involved individuals whose cultural background was different from my own" (.49). Because these characteristics have been identified as high quality features of service-learning in prior research (e.g., in Conrad & Hedin, 1982; Eyler & Giles, 1999), Factor 1 was labeled "Quality Experience."

Three items loaded highly on the second factor: "Teachers or staff in an agency where I worked helped me adjust to and deal with the service-learning experience" (.75); "I received instruction in service-learning as a teaching method" (.67); and "I was given adequate training to perform my tasks" (.71). Because the common theme underlying these items was assistance received during service-learning, this Factor was labeled "Perceived Support."

Two items loaded highly on Factor 3: "I worked with one or more peers on my service project" (.87); and "I was given adult responsibilities" (.50). The high positive loading of the peer item suggested that this factor's cen-

tral dimension was "Peer Collaboration." Finally, two items loaded highly on Factor 4: "I assisted an elementary or secondary teacher with a service-learning project" loaded positively on this factor (.78), while journal keeping loaded negatively (–.67).

The numbers of participants who reported that their views of students and teaching had changed or not changed as a result of their service-learning experience were determined. Pre-service teachers' responses were coded regarding their reasons for changing or not changing their views of students and teaching. Categories of reasons were developed inductively after a close reading of the data.

Logistic regression analyses tested for contributions of candidate and service experience characteristics, such as type of service project or recipients of service, to changes in participants' views of students and teaching. To test for relationships between qualitative and quantitative measures of change, two sets of analyses were performed. T-tests compared the difference scores of those who reported changing or not changing their perceptions of students and teaching on each quantitative variable (teaching efficacy, commitment to teaching, the service ethic of teaching measures, etc.). Additionally, analyses of variance contrasted the difference scores on each quantitative measure of participants with varying reasons for changing their views of students and teaching.

RESULTS

Descriptions of the Service Experience

Before discussing the results, it seems important to describe the contexts in which learning occurred. Table 1 lists the types of services the participants (pre-service teachers) reported they provided.

Table 1. Preservice Teachers' Reported Service Activities

Type of Activity	*% Participants*
Completed their service-learning activities in a school, tutoring or mentoring students	49%
Planned and helped implement a service-learning project with K-12 students either during a practicum or student teaching	20%
Developed a service-learning project on their own or with others	14%
Performed service in a community agency	12%
Assisted in a literacy program	4%
Engaged in "other" types of service	1%

In contrast to Table 1, Table 2 lists the types of service activities in which the recipients of service reported they were involved.

Table 2. Service Recipients' Reported Activities

Type of Activity	*% Recipients*
involved—children or adolescents	50%
involved—assisting a classroom teacher	21%
involved—senior citizens	8%
Involved—ill or disabled adults	5%
involved—other college students	4%
Involved—homeless individuals	3%
involved—"other" individuals	9%

Change in Views of Students and Teaching

Eighty percent of subjects noted that their views of P-12 students had changed as a result of their service-learning experience. Several categories of reasons for the change emerged (See Table 3). The highest percentage of pre-service teachers (39.9%) reported acquiring more positive attitudes toward students, particularly a belief in all students' ability to learn. For example, one candidate stated, "I realized that most students do want to learn, and they feel much better about themselves when they learn the material." Or as another commented, "I have learned that most students, despite their background, are bright and eager to learn." Changes cited by other participants (29.2%) included a better understanding of children's needs, particularly for teacher care, attention, and support. For example, one pre-service teacher noted, "I realized that children are children and each one of them needs love and attention." Or as another said, "Since you know a lot about them, you begin to generally care about them as a person, not just as a student." Other participants reported gaining an increased awareness of individual differences (14.3%). For example, "I have learned that every student is different and has a different learning style. It is important to really know your students and know their strengths and weaknesses." And, "Before it would have been easy for me to think of a class as a similar group of children, but now I see individuality." A small percentage of prospective teachers (4.8%) stated that they had acquired a greater understanding of diversity, a change which one candidate expressed by writing, "I am more aware of the background and culture that students come from." Finally, the remaining 10% of preservice teachers provided individualistic explanations of their revised perceptions; these were labelled, "Other."

Of the 20% of participants who reported no change in their views of students, 63.4% stated that the experience had reinforced their existing beliefs about students. For example, one said, "It's common sense that children come in different packages, shapes, and sizes You have to treat them equally and love them no matter what." 22% attributed the lack of change to prior experience working with young people. For example, according to one preservice teacher, "I have had many experiences with children, so I know a lot about them and what kinds of things affect their lives and make them act the way they do." 9.8% noted that their views of students had not changed because their project did not involve young people, and 4.9% attributed the lack of change to a poorly organized experience.

Table 3. Frequencies of Reasons for Changes in Views of Students and Reasons for Lack of Change

Changes in views of students and teaching	*Frequency*	*Percentage*
Increased awareness of students' positive characteristics (e.g., ability to learn)	67	39.9%
Better understanding of students and need for attention and support	49	29.2%
Greater awareness of individual differences	24	14.3%
Other	17	10.1%
Increased understanding of cultural diversity	8	4.8%
Reasons for no change in views of students		
Experience reinforced existing beliefs about students	26	63.0%
Previous experience with young people	9	22.0%
Project did not involve children or teaching	4	9.8%
Project badly organized and/or implemented	2	4.9%

Approximately 85% of participants reported that their views of teaching had changed because of the service-learning experience. Most frequently, participants (29%) reported that the experience had strengthened or confirmed their desire to teach (See Table 4). For example, one candidate noted, "After the children got to know me they treated me like one of the teachers. This has made me feel more sure about my career choice." Effects reported by other participants (23.6%) included greater awareness of the realities of teaching. As one prospective teacher put it, "I always knew that teaching involved much more than just teaching; however, I didn't know to what extent. This experience has helped me shape these ideals." And, "My experiences with service-learning have enabled me to become more realistic about the teaching profession. Children of today

struggle with so many issues." Some participants (10.4%) described attaining skills or dispositions that would help them become better teachers. For example, according to one, "I feel it will be much easier now to relate to children of different cultures. I know more about their backgrounds and I'll be more understanding." A smaller percentage of teaching candidates (8.8%) wrote about becoming more aware of the importance of teachers as a result of their service-learning experience. For example, "I felt like I was beneficial to them and made an impact, and it was a great feeling ... Teachers really can make a difference and influence those around us much more than I thought." Six percent of participants described gaining a greater awareness of the potential of service-learning as a teaching method. For example, as one prospective teacher stated, "I know now that I want my class involved in community service-learning projects." Or as another said, "It (service-learning) is authentic; kids learn more; it is more fun." However, for some participants (8.8%), the service-learning experience raised questions about their desire or ability to teach ("I now know I no longer want to teach.").

Of the candidates whose views of teaching did not change, 37.5% explained that the experience had confirmed their desire to teach. For example, one participant said, "My feelings are the same about teaching. If anything, the service-learning experience has inspired me more." Another 37.5% attributed the lack of change to an existing understanding of the realities of teaching; 12.5% felt that they had already learned about teaching and classrooms through previous classroom placements; 6.3% noted that their experience had been unrelated to teaching, while another 6.3% attributed their lack of change to a poorly organized project.

Table 4. Frequencies of Reasons for Changes in Views of Teaching and Reasons for Lack of Change

Changes in views of teaching	*Frequency*	*Percentage*
Confirmed or strengthened desire to teach	53	29.1%
Increased awareness of the realities of teaching	43	23.6%
Acquired skills or characteristics to be a better teacher	19	10.4%
Raised questions about ability or desire to teach	16	8.8%
Realized the importance and impact of teachers	16	8.8%
Greater understanding of the potential of service-learning as a method	11	6.0%
Increased understanding of problems in the American educational system	8	4.4%
Increased awareness of student behavior problems	4	2.2%
Identified personal strengths and/or weaknesses	4	2.2%

Table 4. Frequencies of Reasons for Changes in Views of Teaching and Reasons for Lack of Change (Cont.)

Changes in views of teaching	*Frequency*	*Percentage*
Understanding of the need to create a positive social climate in classrooms	3	1.7%
Recognition of the need for continued professional development	3	1.7%
Increased willingness to work in an urban or multicultural setting	2	1.1%
Reasons for no change in views of teaching		
No loss of desire to teach	12	37.5%
Prior awareness of the realities of teaching	12	37.5%
Service-learning project did not involve teaching and/or children	4	12.5%
Had prior experience in classrooms	2	6.3%
Service-learning project poorly organized and/or implemented	2	6.3%

Predictors of Impacts on Views of Students and Teaching

In addition to examining changes in views of students and teaching, a second goal of the study was to identity characteristics of participants and the service-learning experience which predicted whether pre-service teachers would or would not report altered perceptions (see Table 5). The logistic regression analyses isolated one predictor of a change in views of students, the factor "Quality Experience." Pre-service teachers who had a better experience (with greater autonomy, challenge, relevance to teaching, etc.) were more likely to report changing their perspectives on students than others (–1.02, $p = .008$). In contrast, logistic regression analyses revealed a negative association between service-learning in a school and a change in views of students (1.36, $p = .048$). Teaching candidates, whose service-learning occurred in schools, were significantly less likely than others to modify their perceptions of students.

Keeping a journal during the service-learning experience was a significant positive predictor of a change in views of teaching (–.71, $p = .0003$). In contrast, there was a trend toward a negative effect for high school service on the change variable. That is, prospective teachers who had more extensive service experience in high school were less likely to report that their perceptions of teaching shifted as a result of the service-learning project (82, $p = .068$).

Table 5. Effects of Preservice Teacher Characteristics and Characteristics of the Service-Learning Experience

	Dependent Variable	*Coefficient Estimate*	*(p-value)*
Service in a school	Change in views of students	1.36	(.048)
Quality experience	Change in views of students	−1.02	(.008)
High school service	Change in views of teaching	.82	(.068)
Kept a journal	Change in views of teaching	−.71	(.0003)

Associations Between Qualitative and Quantitative Measures of Change

A third focus of the present investigation concerned the relationships between participants' performance on qualitative and quantitative measures of change. Specifically, the study sought to answer the question, "Is there a relationship between pre-service teachers' tendency to report a change in their perceptions of students or teaching as a result of service-learning and their development on objective measures such as a measure of teaching efficacy?

T-tests first compared the pre-/post-difference scores on all quantitative measures of participants who reported a change vs. no change in their views of students and teaching. Subsequently, analyses of variance (ANOVA) were conducted on the difference scores of participants with different types of reasons for changing their views of students and teaching.

T-tests of the difference scores of those who reported a change vs. no change in their views of students revealed no significant difference on any measure. In contrast, t-tests comparing respondents who reported a change vs. no change in their views of teaching revealed significant differences in intent to use service-learning in the future ($t = 2.61$, $p = .01$). Those who reported altered perceptions of teaching were significantly more likely than others to show an increased intent to use service-learning in their own classrooms.

ANOVAs comparing the difference scores of those with different reasons for changing or not changing their views of students revealed no significant differences on any quantitative measure. In contrast, ANOVA revealed significant differences on three quantitative measures between those with different reasons for changing their views of teaching. The first was Personal Teaching Efficacy ($F = 2.94$, $p = .004$). Candidates who stated that the service-learning experience had confirmed their desire to teach, made them realize the need for additional training, highlighted the need to create a positive social climate, or helped them learn more about per-

sonal strengths or weaknesses, showed gains in Personal Teaching Efficacy. In contrast, participants who said that the project had made them more aware of student behavior problems, raised questions about their desire or ability to teach, made them more aware of problems in the U.S. educational system, or increased their awareness of the realities of teaching showed a decrease in Personal Teaching Efficacy.

ANOVA also revealed significant differences in commitment to teaching among those with different reasons for changing their views of teaching ($F = 2.34$, $p = .02$). Pre-service teachers who stated that their service-learning experience had strengthened or confirmed their desire to teach, helped them identify personal strengths or weaknesses, or assisted them in acquiring skills needed for effective teaching, showed increased commitment to teaching. In contrast, those who reported that they had experienced questions about their desire or competence to teach, become more aware of the need to create a positive social climate in classrooms, or become more aware of problems in the educational system showed a decline in their commitment to teaching.

Finally, there was a significant difference in the type of change reported in views of teaching due to one item indicative of a service ethic: the desirability of teachers having a strong interest in correcting social problems ($F = 2.08$, $p = .04$). Several groups of pre-service teachers assigned increased importance to this quality of teachers on the posttest: those who had become more aware of student behavior problems; those who learned about the potential of service-learning as a teaching method; those who had gained insight into their own strengths or weaknesses or who had experienced questions about their desire or ability to teach; and those who gained greater understanding of problems in the educational system. In contrast, two categories of participants assigned a lower rank to this characteristic on the posttest: those who stated that the experience had helped them acquire skills or dispositions needed for effective teaching, and those who expressed increased awareness of the need to learn more about teaching.

DISCUSSION

In this study a large percentage of pre-service teachers, enrolled in teacher education courses including service-learning, reported that their views of students and teaching changed as a result of their experiences. With respect to perceptions of students, participants most often reported gaining new insights into their positive characteristics, particularly their ability to learn. Studies of teacher development suggest that beginning teachers' early perspectives on learners tend to be filtered through the self, disclosing an assumption that their own experiences with and attitudes toward

school (typically positive) will be shared by their students. Feiman-Nemser and Remillard (1996) note that teachers' narrow perspectives are frequently due to personal histories that have offered "limited contact with people who are culturally and ethnically different from themselves and few opportunities to consider that others may learn, understand, or experience things differently" (p. 69). The finding of gains in awareness of students' positive characteristics suggests that engaging in service, particularly with diverse pupils, can challenge pre-service teachers' restricted views and broaden their perspectives on the typical learner and/or the qualities needed for academic success.

For the second largest group of participants in the study, service-learning resulted in greater awareness of students' needs for teacher support and affection. This finding is consistent with Potthoff and colleagues' (2000) and Flippo et al.'s discovery (1993) that participants in service-learning in teacher education show increased sensitivity, compassion, and concern. Root (1994) has contended that the contemporary social climate of childhood and the large number of social problems facing youth mandate the need for teachers motivated by an ethic of care (Noddings, 1988). Latane and Darley (1968) have proposed that awareness of another's need is the first step in coming to others' assistance. The finding that service-learning stimulated this awareness suggests that, at a minimum, it can foster the mindfulness of children's developmental and life conditions prerequisite to caring teacher behavior.

In an earlier study, Root et al. (2000) found no significant effects for service-learning on a quantitative measure of commitment to teaching among the larger sample from which subjects for the present investigation were drawn. However, in the qualitative self-report data, increased commitment to teaching was one of the central outcomes of pre-service teachers' experience. Root and colleagues attributed the absence of a change in commitment to participants' high entering scores on this variable. Results of the qualitative data analysis seem to confirm this interpretation, suggesting that a ceiling effect on the objective item masked actual gains in commitment. Alternatively, increased commitment may have occurred mainly among the subsample for this study. However, it seems that service-learning experiences, particularly with youth, present pre-service teachers with opportunities to practice and process facets of the teacher role and experience affirmation within that role, which should strengthen many candidates' decisions to teach.

The logistic regression analyses revealed that the factor of quality predicted a change in candidates' perceptions of students. The dimensions of quality service-learning identified in this study (challenge, autonomy, relevance to teaching, integration of course and service work, and exposure to diversity) are consistent with those isolated by other researchers (e.g., Astin

et al., 2000; Eyler & Giles, 1999). The present finding of an impact for quality adds to the considerable evidence regarding the critical importance of these features of service-learning in mediating student outcomes (Astin et al., 2000; Batchelder & Root, 1994; Conrad & Hedin, 1982; Eyler & Giles, 1999).

The finding that placement in a school was negatively associated with a change in views of students may reflect the pervasive influence of pre-service teachers' prior school experiences on their perceptions. Numerous researchers (e.g., Calderhead & Robson, 1991; Lortie, 1975) have observed that future teachers' beliefs about learning and teaching tend to be highly stable and resistant to change as a result of their lengthy "apprenticeship of observation" in schools. For candidates' beliefs to alter, teacher education programs may need to separate them from the "familiar context of the school" (Sullivan, 1991).

Results indicated that journal keeping predicted a change in views of teaching. This finding accords with several other studies (e.g., Astin et al., 2000; Conrad & Hedin, 1982; Eyler & Giles, 1999; Mabry, 1998) that have documented the critical role of structured reflection in promoting learning from service. In their cross-institutional study of service-learning in higher education, Eyler and Giles (1999, p. 40) found that writing was a "consistent predictor of self-knowledge, spiritual growth, and finding reward in helping others."

The last set of analyses addressed the nature of the relationships between pre-service teachers' performance on qualitative and quantitative measures of teacher change. Results showed no significant differences between participants who changed or did not change their perceptions of students on any quantitative measure. Similarly, no differences were found on any quantitative scale due to the reason for changing one's views of students. The failure to find relationships between quantitative and qualitative measures was unexpected. However, it may have reflected a difference in the underlying dimensions assessed by the two groups of measures. While the first qualitative question assessed views of students, most of the quantitative measures, such as the teaching efficacy scale, were measures of attitudes toward teaching. There seems to have been little overlap between the constructs at the center of these scales and the new perspectives on students which emerged in the first essay.

Results did reveal a significant difference between those who changed vs. did not change their views of *teaching* on one quantitative variable, intent to integrate service-learning into future teaching. Pre-service teachers who reported revising their views of teaching scored significantly higher in their intent to use service-learning in their future classrooms. It may be that their service-learning experience caused candidates to modify their understandings of the roles and responsibilities of teachers. Alternatively, respondents

may have realized how significant service-learning had been in their own educations and wanted to use this approach with their pupils.

Data analyses also showed impacts for the type of change reported in views of teaching and scores on some of the quantitative measures. The nature of these effects was complex and varied widely depending on the perceived impact reported by participants. For example, pre-service teachers whose service-learning reinforced the desire to teach or taught them about their personal capabilities, and/or helped them master teaching skills, showed gains in Personal Teaching Efficacy and commitment to teaching. On the other hand candidates, who experienced doubts about their desire to teach or about classrooms and schools as a result of their service-learning, showed decreased PTE and commitment. These findings highlight the powerful moderating influence of students' subjective perceptions of their experiences on the benefits they gain through service-learning.

CONCLUSION

In this study, service-learning significantly affected pre-service teachers' perceptions of students and teaching as indicated by qualitative, self-report measures. The majority of participants shifted in the direction of views that would be expected to lead to more effective teaching, such as increased awareness of student positive characteristics, understanding of student needs and commitment to teaching. However, consistent with findings from other investigations, the quality of the service-learning experience, placement, and students' subjective experience of their service-learning projects played a significant role in moderating the impact of service-learning. While students who reported modifying their views of teaching were more likely to show gains in their intent to incorporate service-learning in their future teaching, relationships between the content of students' revised views of teaching and their scores on quantitative measures were complex.

The results confirm the need for teacher education faculty to carefully select and plan service-learning experiences in order to provide pre-service teachers with projects that align with course and program outcomes. In addition, service-learning experiences need to be well designed if candidates are to experience the desired attitude changes which service-learning in teacher education is intended to achieve.

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REFERENCES

Armor, D., Conroy-Oseguera, P., Cox, M., King, N., McDonnell, L., Pascal, A., Pauly, E., & Zellman, G. (1976). *Analysis of the school preferred reading programs in selected Los Angeles minority schools* (Rep. No. R-2007-LAUSD). Santa Monica, CA: RAND (ERIC Document Reproduction Service No. 130-243.

Ashton, P., & Webb, R. (1986). *Making a difference: Teachers' sense of efficacy and student achievement.* New York: Longman.

Astin, A., Voglegesang, L., Ikeda, E., & Yee, J. (2000). *How service-learning affects students.* Los Angeles: Higher Education Research Institute of California, Los Angeles.

Bandura, A. (1997). *Self-efficacy: The exercise of control.* New York: W. H. Freeman.

Berman, P., McLaughlin, M., Bass, G., Pauly, E., & Zeelman, G. (1977). *Federal programs supporting educational change, Vol. VII: Factors affecting implementation and continuation* (Rep. No. R-1589/7-HEW). Santa Monica, CA: RAND. (ERIC Document Reproduction Service No. 140 432).

Boyle-Baise, M. (1998). Community service-learning for multicultural education: An exploratory study with preservice teachers. *Equity and Excellence in Education, 31*(2), 52–60.

Calderhead, J., & Robson, M. (1991). Images of teaching: Student teachers' early conceptions of classroom practice. *Teaching and Teacher Education, 7*(1), 1–8.

Coladarci, T. (1992). Teachers' sense of efficacy and commitment to teaching. *Journal of Experimental Education, 60,* 323–337.

Conrad, D., & Hedin, D. (1982). Youth participation and experiential education. *Child and Youth Services, 4*(3/4).

Erickson, J., & Anderson, J. (Eds.). (1997). *Learning with community: Concepts and models for service-learning in teacher education.* Washington, DC: American Association for Higher Education.

Eyler, J., & Giles, D. (1999). *Where's the learning in service-learning?.* San Francisco: Jossey Bass.

Feiman-Nemser, S., & Remillard, J. (1996). Perspectives on learning to teach. In F. Murray (Ed.)., *The teacher educator's handbook: Building a knowledge base for the preparation of teachers.* (The Jossey-Bass Education Series.) San Francisco: Jossey-Bass.

Flippo, R. F., Hetzel, C., Gribonski, D., & Armstrong, L. A. (1993). *Literacy, multicultural, sociocultural considerations: Student literacy corps and the community.* Paper presented at the Annual Meeting of the International Reading Association, San Antonio, TX. (ERIC Document Reproduction Service No. ED 356 466).

Gibson, S., & Dembo, M. (1984). Teacher efficacy: A construct validation. *Journal of Educational Psychology, 76*(4), 569–582.

Glickman, C., & Tamashiro, R. (1982). A comparison of first-year, fifth-year, and former teachers on efficacy, ego development and problem solving. *Psychology in Schools, 19*, 558–562.

Hoy, W., & Woolfolk, A. (1993). Teachers' sense of efficacy and the organizational health of schools. *The Elementary School Journal, 93*, 356–372.

Latane, B., & Darley, J. (1968). Group inhibition of bystander intervention. *Journal of Personality and Social Psychology, 10*, 215–221.

Lortie, D. (1975). *Schoolteacher: A sociological study.* Chicago: University of Chicago Press.

McKenna, M., & Ward, K. (1996). Service-learning: A culturally relevant pedagogy. *Thresholds in Education*, 18–21.

Noddings, N. (1988). An ethic of caring and its implications for instructional arrangements. *American Journal of Education, 96*(2), 215–220.

Pothoff, D., Dinsmore, J., Walsh, T., Ziebarth, J., & Eifler, K. (2000). Preparing for democracy and diversity: The impact of a community-based field experience on preservice teachers' knowledge, skills, and attitudes. *Action in Teacher Education, 22*(1), 79–92.

Root, S. (1994). Service-learning in teacher education: A Third rationale. *Michigan Journal of Community Service Learning, 1*(1), 94–97.

Root, S., & Batchelder, T. (1994). *The impact of service-learning on preservice teachers' development.* Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA.

Root, S., Callahan, J., & Sepanski, J. (2000). *Service-learning in teacher education: A multisite study.* Paper presented at the fourth annual Michigan Campus Compact Faculty Institute, East Lansing MI.

Seigel, S. (1994). *Community service-learning: A component to strengthen multicultural teacher education.* Paper presented at the annual meeting of the American Educational Research Association, New Orleans, LA.

Serow, R., Eaker, D., & Ciechalski, J. (1992). Calling, service, and legitimacy: Professional orientations and career commitment among prospective teachers. *Journal of Research and Development in Education, 25*(3), 136–141.

Serow, R., Eaker, D., & Forrest, K. (1994). "I want to see some kind of growth out of them": What the service ethic means to teacher-education students. *American Educational Research Journal, 31*(1), 27–48.

Smylie, M. (1988). The enhancement function of staff development: Organizational and psychological antecedents to individual teacher change. *American Educational Research Journal, 25*, 1–30.

Tellez, K., Hlebowitsch, P., Cohen, M., & Norwood, P. (1995). Social service field experiences and teacher education. In J. Larkin & C. Sleeter (Eds.), *Developing multicultural teacher education curricula* (pp. 65–78). Albany: State University of New York Press.

Vadeboncoeur, J., Rahm, J., Aguilera, D., & LeCompte, M. (1995). *Learning in the service of citizenship: The limitations of service-learning.* Paper presented at the annual meeting of the American Educational Research Association, San Francisco, CA.

Wade, R., Anderson, J., Yarbrough, D., Pickeral, T., Erickson, J., & Kromer, T. (1999). Novice teachers' experience of community service-learning. *Teaching and Teacher Education, 15*, 667–684.

Wade, R., Boyle-Baise, M., & O'Grady, C. (2001). Multicultural service-learning in teacher education. In J. Anderson, K. Swich, & J. Yff (Eds.), *Service-learning in teacher education: Enhancing the growth of new teachers, their students, and communities* (pp. 248–259). New York: AACTE Publications.

CHAPTER 12

ADOPTION, IMPLEMENTATION, AND SUSTAINABILITY OF K-12 SERVICE-LEARNING

Shelley H. Billig

INTRODUCTION

Service-learning is rapidly gaining popularity in the United States public education system. The National Center for Education Statistics (1999) showed that service-learning is being implemented in about a third of all public schools that serve K-12 students, and half of all high schools. Research reviews, such as those by Billig (2001) and Bhaerman, Cordell, and Gomez (1998), show that service-learning has positive impacts on students, schools, and communities. It produces modest effects on many aspects of personal and social development, civic engagement, academic achievement, and career awareness. As such, many practitioners discuss the "value added" nature of service-learning in schools. With its relatively low financial cost, service-learning has great appeal to educators and to the public alike (APCO Associates, 1999; Roper Starch Worldwide, 2000).

Despite its growth over the past decade, service-learning continues to remain a fragile reform that is highly dependent on individuals to be sustained. Like other K-12 innovations, service-learning runs the risk of

becoming the "fad of the day" unless certain factors are in place to sustain and institutionalize practice over time. This chapter reviews the research on 11 sites (eight school sites and three district sites) in the state of New Hampshire that adopted service-learning to determine the factors that played the greatest role in sustaining service-learning over time. From this research, a model of sustainability is derived.

DEFINITION OF TERMS

The research on service-learning and the more general literature in education, organizational development, and other fields that discuss adoption, diffusion, and sustainability of innovations display a great deal of variation in the use of terms. In this chapter, terms are defined as follows:

> *Service-learning* is a teaching and learning approach that links academic learning to service that meets authentic community needs. Students who engage in high quality service-learning activities typically have some choice in the service they provide, work cooperatively with each other and with members of the community, receive at least some cognitive guidance from adults and/or peers as they reflect on and make sense of their experience, and acquire new knowledge or skills that recognizably link to academic content areas.
>
> *Adoption* refers to the awareness of and initial experimentation with an innovation. In the case of service-learning, there must be some level of community service being provided and some link to the curriculum, though the activities may be short in duration and the linkage may be weak. While the adoption of the innovation may not involve all of its aspects, it requires recognition that a particular innovation that has an identity has been formally implemented. The adopting entity, however, may not define the innovation in the same way as others who implement the innovation.
>
> *Implementation* refers to the more routinized use of the innovation. Implementation concerns focus on the fidelity with the original design of the implementation and the quality of the practice itself. In the case of service-learning, implementation would require inclusion of key elements such as meeting a community need and engaging in reflection.
>
> *Institutionalization* addresses the permanent use of the innovation such that it becomes a normative part of the organization and its culture. If service-learning is expected as an activity in every grade level or grade span, it is institutionalized.

> *Sustainability* is similar to institutionalization and typically refers to an innovation that endures over time. Sustainability often involves the ability to maintain or increase program efforts by building constituencies; creating strong, enduring partnerships; generating and leveraging resources; and identifying and securing funding sources that are available over time. As applied to service-learning in K-12 settings, service-learning is sustained when it is an embedded feature of the curriculum and is supported by both financial and human resources.

In much of the research, institutionalization and sustainability are used synonymously. When a distinction is made in the research, the differences between sustainability and institutionalization appear to be related to where the activities are sustained. If they are associated with a formal structure, they are often said to be institutionalized. When they are practiced in a variety of forms that may or may not be associated with formal structure, they are said to be sustained.

REVIEW OF THE LITERATURE ON ADOPTION, IMPLEMENTATION, AND SUSTAINABILITY

Research on adoption, implementation, and diffusion has its roots primarily in the organizational change literature. The initial stage is adoption, when choices are made to try an innovation. According to Rogers (1995, pp. 15–16), adoption decisions are made on the basis of an individual's perception of five attributes of the innovation including: *the relative advantage* of the innovation relative to the status quo; the *compatibility* of the innovation with the individual's existing values, past experiences, and needs; the *simplicity or complexity* of the innovation; the degree to which the innovation can be *implemented on a limited and risk-free basis*; and the degree to which the innovations have *results that are visible* to others.

Bateson (1972) points out that adoption is influenced by those important to the individual. *Leaders*, for example, can exert influence through policy change, personal charisma, and/or friendship with the individuals involved. The type of influence that is exerted has an effect on receptivity, with top-down mandates providing the fastest adoption, but not necessarily the ones that have the greatest endurance (Light, 1998). Rogers (1995, p. 36) points out that *"near-peers"* are the most likely influence. In educational settings, research (e.g., Billig, 2000) shows that a critical mass of support often determines whether adoption will occur.

Other researchers have shown the *Concerns-Based Adoption Model* (Hall & Hord, 1987) is generalizable for adoption and implementation of any educational innovation. In this model, individuals progress through six stages as

they adopt and become regular users of an innovation. These stages are orientation, preparation for use, mechanical use or task mastery, routine use and refinement, integration, and renewal. In the final stage of this process, individuals have adopted or adapted the process so that it is completely embedded within their repertoire of beliefs, attitudes, and practices.

In applying these concepts to educational settings, Elmore (1996) noted that when teachers consider the innovation to be a tool that made their daily work easier and more efficient and/or when the innovation is consistent with their core beliefs about teaching and learning, they are far more likely to adopt it. He also found that incentive systems influence teachers' adoption decisions.

Implementation

Implementation research typically has two foci: investigation of components and the quality of the implementation itself (Durlak, 1995; Yeaton & Sechrest, 1998). In the 1980s, Maher and colleagues (e.g., Maher & Bennett, 1984) described the components necessary for implementation. They were: *human resources* (number, type, and qualifications of staff); *informational resources* (policies and procedures such as program participation selection criteria and evaluation plan); *technological resources* (materials and equipment); *financial resources* (developmental and operational budgets); *physical resources* (facilities); *clearly articulated organizational roles, responsibilities, and relationships*; *well defined and specified sequence, timing, and nature of activities*; and a *reasonable amount of permissible variation*.

The quality of the implementation is typically defined as the degree to which implementation is conducted as originally intended. Sometimes referred to as fidelity or integrity, researchers such as Dane and Schneider (1998) believe that implementation quality includes adherence to the original model, frequent contact, effective delivery, participant engagement, and type of program experience.

Greenberg, Domitrovich, Graczyk, and Zins (2001) identified barriers to implementation of innovation. In the initial stages of implementation, *lack of awareness, buy-in, incentives, and history of implementation* serve as significant barriers. As the implementation process advances, *inadequate support systems* serve to impede progress, particularly in terms of insufficient planning, inadequate provision of training, lack of ongoing supervision of implementers; poor communication between training systems and implementers, and lack of technical assistance to address ongoing needs and emerging problems.

Other barriers to implementation are centered on environmental impediments, implementer characteristics, and program characteristics.

Environmental (context) impediments include inadequate or unsupportive leadership, lack of integration with other aspects of learning; inadequate attention being paid to the innovation, and/or insufficient allocation of resources; low collegiality or poor organizational climate. *Implementer characteristics* that impede implementation include lack of preparedness of instructors, overstressed and undersupported personnel, and inconsistency of philosophy or teaching style. *Program characteristics* that serve as barriers include poor quality of materials, inappropriateness of material to audience, and the approach being too narrow to address the challenge.

Sustainability

As innovations move into the sustainability stage, according to Senge (1990, p. 240), "You are increasingly dealing with organizational culture; you can no longer isolate your team from larger-scale priorities of your company or agency, from its values ... from its ways of measuring success, and from its members' attitudes about you." Nardi and O'Day (1999, p. 51) believe that "Local changes can disappear without a trace if they are incompatible with the rest of the system."

Senge (1990) believes that the organization must address three challenges if it is to be sustained: fear and anxiety; the gap between the change initiative and the way in which organizations measure results; and the tendency for change to devolve into perceived threat. He points out that innovating groups need to take care in their relationships with the larger organization. Without this care and attention, innovators may suffer a lack of credibility or be perceived as negative threats to the status quo. The result can be psychological isolation from the rest of the organization and the development of a 'siege' mentality by the innovators.

Senge (1990) and Nardi and O'Day (1999, p. 52) discuss the steps can be taken to diffuse this threat to sustainability. These include the promotion of flexibility within the organization and fostering openness within the group that is engaged in the innovation. Senge also discusses the need for mentoring, engaging the larger system in dialogues with the innovating group, respecting individuals' inhibitions about personal change, communicating simply and with no jargon, and connecting to others through a common sense of purpose and core values.

Senge (1990) believes that once the innovation begins to produce results, the dynamics associated with the diffusion process play a determining role in sustainability. The organization's readiness and capacity for change are the critical elements at this stage. Key to success is the ability of the innovators to capture lessons learned, best practices, and networks of support. In addition, Senge believes that organization members must be

given at least some level of autonomy to make changes when and where they are needed.

Schneider, Brief, and Guzzo (1996, p. 7) show that unless the innovation results in an alteration of the fundamental psychology or "feel" of the organization to its members, there can be no sustained change. Policies, practice, routines, and procedures alter the psychology and permit changes to be sustained over time. Schneider et al. (p. 11) also found that individual adoption and sustainability of innovation was more likely when "people feel that their work is challenging, when they can participate in decisions regarding how the change will be achieved, and when their interpersonal relationships are characterized by mutual trust."

Finally, Light (1998) found that various factors in the environment determine the degree to which innovations will be sustained. *External environment* factors include turbulence in the environment, level of shock to the system, support/encouragement for the innovation, collaboration, and availability of support. Turbulence refers to the level of uncertainty in the surroundings. Shock refers to an extreme event such as elimination of funding or resignation of a key leader.

Internal structure factors that influence sustainability include the degree of hierarchy of the organization, the demographics and membership diversity, and internal turbulence such as staff turnover, internal boundaries, and internal resources. In general, less hierarchy, greater diversity, low turbulence, permeable boundaries with easy communication, and flexible internal resources are associated with sustainability.

Leadership plays an important role in every stage of organizational change. Overall, *leadership* has five pertinent dimensions: vision, temperament of the leader, communication, durability, and innovation skills. According to Light (1999, p. 98), the innovation skills that a leader must possess include creating room for experimentation, distributing the authority and responsibility, establishing internal collaboration, and nurturing of new ideas.

CASE STUDIES OF SERVICE—LEARNING ADOPTION, IMPLEMENTATION, AND SUSTAINABILITY

To date, little research has been performed on adoption, implementation, and sustainability of service-learning in K-12 schools. National studies such as the national Learn and Serve Evaluation by Melchior (1999) and state level studies such as the evaluation of CalServe by Weiler, LaGoy, Crane, and Rovner (1998) shed some light on these processes within service-learning, but these studies were designed to be program evaluations and did not specifically investigate these processes. This study aims to contribute to

greater understanding of adoption, implementation, and sustainability processes particularly as they relate to service-learning in K-12 public schools.

BACKGROUND AND METHODOLOGY

In 1997, six schools and three districts in New Hampshire received grants from the state to implement service-learning as an educational reform strategy. In 1998, two additional schools received grants. Data collected at each of the sites became the basis for case studies in the adoption, implementation, and sustainability of service-learning. A total of 11 case studies were conducted over a period of three years for the 1996–97 grantees and two years for the 1997–98 grantees.

During site visits, service-learning activities were observed, focus groups were conducted with teachers, students, and community members, and principals of the schools and the service-learning coordinators were interviewed. Each year, data were collected from more than 100 individuals involved at the 11 sites.

In structured data collection formats featuring open-ended questions and probes, respondents were asked about their motivation to adopt service-learning, the service-learning activities and progress that they made toward their project objectives, factors that served to facilitate or impede progress, the support systems that were in place and how they were used. They were also asked about impacts of service-learning on teaching and learning practice, student learning and attitudes toward school, the community, and any additional results. All sites were visited twice the first year and once each year thereafter. Annual drafts of the case studies were reviewed by site personnel for accuracy.

In addition in 1998 and 1999, site personnel completed self-assessments of the implementation of quality service-learning practice and support for service-learning in their schools and districts. The self-assessments tools were developed by RMC Research based on the indicators of effective practice as articulated in the Essential Elements of Service-Learning (National Service-Learning Cooperative, 1998). The self-assessments were completed independently by principals, teachers, and community members at each site, and differences in the ratings were reconciled in group meetings until single ratings were agreed upon for each indicator.

During the three years of the study, one program was discontinued. In 2001, information was obtained to determine which of the sites sustained service-learning. Those still practicing service-learning had done so for at least four years and they endured beyond the original three year funding cycle. At that time, all sites were being sustained, except the discontinued

site though one was severely cut back in terms of size and scope of service-learning activities and another had an uncertain future, because of its status as an alternative school.

Data from the case studies and self-assessments were reanalyzed to determine factors that were associated with longer-term sustainability. Initial analysis involved organizing data by the adoption, implementation, and sustainability factors suggested by the literature. Initially data were sorted into external and internal factors and then further refined. If data did not fit the categories that were developed, new categories were established and data were reorganized. The final categorization gave rise to the formulation of a new model of sustainability, to be presented later in this chapter.

Description of the Sites

The 11 sites in New Hampshire that adopted service-learning were all grantees of a special program that provided funds to link service-learning and educational reform. The sites were located in various regions of the state. Three of the sites featured implementation across multiple districts. One was a districtwide program in a K-12 school. Four were programs for elementary school students; one was for middle school students; one was a schoolwide program for an alternative high school; and one was a schoolwide high school program. The middle school site and one of the elementary school sites conducted service-learning as an after-school program. The rest integrated service-learning within the regular school day and viewed service-learning as an instructional strategy for curriculum delivery.

Sites engaged in a large variety of service-learning activities. Two of the sites featured cross-age peer tutoring. In one of these sites, older children wrote and published books for the preschool children, collaborating with local authors, illustrators, and high school photography students to design books focused on neighborhood issues, landmarks, and events. Once the book topics were chosen, students interviewed community members, took photographs, and conducted research to write the books. At another site, high school students helped elementary students with reading and other academic needs. In addition, this school developed a service-learning class where students designed their own service activities including assisting the elderly, caring for abandoned pets, and managing a telephone reassurance program for seniors.

Other sites focused on environmental issues. The alternative high school, for example, spent several years studying and caring for a five-mile section of the Saco River. Students measured water quality using scientific instruments, conducted research on the local ecology, raised trout to restock the river, and educated the community on the need to become

environmental stewards. One elementary school had students from three grade levels working on teams to design and build a nature trail. They conducted research on local ecology, developed maps of the land, wrote educational facts to include on the trail guide, landscaped the area, and worked with community members to build the trail. Another project featured students at various grade levels who built a nature trail and a greenhouse, engaged in tutoring younger children in reading and math, and helped with a senior meals program. Still another engaged the students in pond restoration, helping the students learn science, math, language arts, social studies, arts, public speaking, and problem solving techniques.

One of the multiple school sites involved third grade students in a greenhouse project growing and planting flowers throughout the city. This project utilized community members from the horticultural society and helped students learn botany, measurement, and other scientific principles.

Three sites had historical societies as their partners in service-learning. In two elementary programs, students created a series of guides after conducting research on local history. In a middle school program, students studied local history and engaged in re-enactments of battles at a local fort.

Finally, one of the cross district service-learning programs completed 40 different service-learning projects related to specific community needs. Individual teachers and their students designed and implemented the projects, linking them all with curriculum in various content areas.

RESULTS

Adoption of Service-Learning

The 11 case studies conducted in New Hampshire revealed that adoption of service-learning was prompted primarily by two factors: a belief system by teachers that contextual and authentic learning was valuable and by provision of funds to implement the program. Nearly all of the adopting teachers said that service-learning resonated with their philosophy of teaching and learning and that it was "not all that different" from instructional strategies that they already used and/or valued. As one teacher/project coordinator summed up, "Everyone agrees that the more you can do that's authentic with kids, the more success you're going to have. I think it's a common denominator. When you do a project like this, everybody comes to the table; everyone understands that it's more effective than the regular curriculum. Most of the teachers in the building know that this kind of stuff goes further with the students."

A principal from another school articulated similar sentiments: "Teachers have made the shift (in their thinking about teaching and learning).

(Teachers) who are truly addressing our mission, our outcomes in their own curriculum, they more often are the coach or the facilitator. They move around the class, they encourage, they sort of give direction, but they are not the experts ... It's not so much that (service-learning) represents a great departure from the way the whole school has worked ... It's what we've been striving toward for a number of years. I just see a lot more of it, and the goal is to get a lot more of it going." In addition, personnel at every site said that the availability of the grant itself pushed them into deciding to adopt service-learning because it provided funds for someone to coordinate the program or to encourage community partnerships to be formed.

One site used service-learning as one of its primary education reform strategies. The principals and teachers of the K-12 schools in this very rural district convened a "spaghetti dinner vision night" meeting with anyone who wished to come to talk about the dismal achievement levels and what should be done. According to multiple respondents in the focus groups, hundreds of individuals from the community participated. They were asked to answer the question, "If (the school) was going to be a successful, educational place not only for kids, but also for the whole community, what would that look like? What would we need to do? What do we need to have in order for that change to happen?" Several strategies for improvement were discussed and at the end of the evening, the meeting participants ("from the littlest kid to the oldest old lady") decided that experiential learning was a key component of attaining their mission. As one community participant explained it, "Service-learning is one methodology that teaches people to be responsible for their own actions, to evaluate, to do things, to plan, do, and then reflect. You accomplish things, and then look at what you did, how you could do it better, and then do it again. It's all a system of looking at your own personal responsibility, your membership in a group, what and how it's related to the outcomes, the diversity of people, the strength of difference and how important that is."

These community values were identified and the school incorporated service-learning into every content area. Two of the other schools in this study offered service-learning as an after-school program, one implemented service-learning as a high school elective, and the others incorporated service-learning into regular classroom instruction, typically at multiple grade levels. Nine of the sites saw service-learning as an integrated teaching and learning approach and two viewed it primarily in terms of enrichment.

Bothe the principals and most teachers in this study initially learned about service-learning through conferences and other events hosted by the state. Some learned about it from peers. Most thought that it would be "good" for children, helping learning come alive for them. They knew that the state would provide professional development for them to implement

their programs, either already had or could easily form strong relationships with community partners, and felt that parents would be supportive of the approach. Most felt that the project would be relatively simple to implement. With the funds they obtained by winning the grant competition, most school personnel thought service-learning would be relatively simple to implement.

Other factors that were important for these respondents during the adoption stage were:

- word-of-mouth and available research on the benefits of service-learning;
- the availability of funds and human resources for professional development;
- the existence of a support structure from the state in the form of a knowledgeable and personable grant coordinator; and
- the funding and visibility that the project brought.

Teachers knew that when they adopted service-learning, their approach would have to be tied in with the state curriculum frameworks because they thought that service-learning had a better chance to survive in the school if it produced strong academic outcomes.

Comparison of These Results with the Research Literature on Adoption

These results were consistent with the research literature on adoption. Of the five factors that Rogers (1995) identified, the compatibility factor was the most salient. Teachers did not often discuss service-learning in terms of its relative advantage, but they did believe that it was fairly simple to implement and initially, most experimented with service-learning on a limited basis. Because they received grant funding to conduct service-learning, teachers perceived the activities to be relatively risk-free for them as professionals. They knew that there would be some visibility for the project, but that both the risk and the visibility were shared with community and thus were not viewed as something that could in any way jeopardize their educational goals for the students.

Consistent with the research by Bateson (1972) and Rogers (1995), leaders and peers were also influential in the adoption process. Leaders at these sites had to endorse the project as part of the grant application. In all sites, district and building administrators were supportive and in some sites, they were the ones who took the lead. In all of the sites, the initial implementers were at least a pair of teachers and in some sites, adoption occurred by the entire staff.

The adoption of service-learning also involved direct ties with content and performance standards and existing state level organizational structures because they were requirements of the grant. Professional development was also provided by the grant. Service-learning was adopted voluntarily, there were incentives to participate, and the practice of service-learning was aligned with core beliefs about schooling.

IMPLEMENTATION

All of the sites in this study began implementing service-learning during the year their grant was awarded. The sites that engaged in environmental projects typically had activities that involved students intensely in the fall and spring, but the projects were suspended during the winter due to weather. The exception was the site that grew flowers to beautify the town. Flowers were grown from seeds so the project started in the winter and continued through the spring. Sites that had tutoring, materials development, work with historical societies or senior citizens, or work with community agencies continued at a steady pace year-round.

The sites in this study had a range of ways that students planned and executed projects. All but two involved the students significantly in designing service-learning activities. In about half the sites, students conducted community needs assessments; the rest formed partnerships with community organizations and brought members of those organizations to the school to discuss agency needs. In these cases, the students, teachers, and community members typically jointly decided the content of the service-learning projects, with strong guidance from the adults. With regard to the sites where students did not have a choice in designing projects, teachers decided the content of the service-learning activities in one case, and community members presented the activity in the other. In the case of the high school with the service-learning class, the students chose their activities from a list of possibilities suggested by community agencies.

All of the sites included reflection as part of their service-learning approach. In some of the sites, the reflection activities were summaries of what the students experienced. In just under half of the sites, the reflections were essays that prompted the students to discuss what was learned, how they interpreted their experience, and how the service experience was tied to curriculum. In a few sites, reflections were primarily oral discussions.

The reflection activities tended to be consistent with a teacher's philosophy of teaching and learning. Those who held constructivist beliefs saw themselves as guides for the process and allowed a more open-ended approach. As one teacher said, "This program models the way I believe

learning should take place ... to create active learners among both students and teachers. You have to co-learn through the experiences..." This teacher used a variety of reflection techniques, some of which were the same ones she used for other instructional activities. For example, she used KWL (asking before the activity, what the students know and want to know, then after the activity, what they learned and how they found out) and semantic webs for vocabulary development. This teacher viewed herself as a strong leader and contributor, and eventually wrote a booklet describing reflection activities.

After two years of implementation, every site engaged in self-ratings of program quality using a rubric derived from the Essential Elements of Service-Learning (National Service-Learning Cooperative, 1998). Three of the sites, all of which had schoolwide adoption, met most of the standards of high quality. The sites with the after-school programs met the fewest number of standards. According to the self-assessments, the sites had the most difficult time in providing ongoing staff development and in assessing their programs on a regular basis. Only two of the sites achieved "high quality" in these areas. On the other hand, all of the sites met the standards of helping students learn new skills, engaging in critical thinking and taking risks in their learning, providing opportunities for recognition by peers and community members, connecting to community in new and positive ways, and contributing to communities in meaningful ways.

Facilitators and Barriers

Teachers believed that implementation was easier when there was a critical mass of teachers at the building-level who were engaged in service-learning. This was mentioned by more than half of the sites. A typical comment was made by this teacher: "It's easier when you work in groups (of teachers) than if you try to sit down by yourself ... (Being with those) at a grade level or something like that. You get synergy. You get more people. They'll see things differently and then you'll find new (allies)." Each site implemented all of the service-learning components expected as part of their grant. Every program was based on an authentic community need and linked the service with the curriculum, typically through the reflection activities. Other facilitators to implementation mentioned by many respondents included:

- Involving all individuals, including students, who will implement the activities into the planning of the activities. In the opinion of the educators, this promoted commitment and learning;

- Having expertise and technical assistance available to help with problem solving, either through the state or through local universities;
- Obtaining consistent support from the district and building leadership. (As one teacher said, "the first thing that helped me ... is administrative support, the principal's support and encouragement. The second thing is that she's allowed me the freedom to work on this. She gets me support for my class. she sees value in what we're doing");
- Providing regular opportunities to share ideas, solve problems, and discuss linkage with curriculum with teaching peers and district curriculum specialists;
- Accessing the expertise and support of community members;
- Having sufficient financial and human resources;
- Including service-learning in the district's mission, strategic plan, or policies;
- Receiving recognition or some other form of visibility such as media coverage;
- Building in provisions for transportation and safety; and
- Teaching in an environment that allowed risk taking.

Barriers to implementation that were mentioned by the respondents in this study included a lack of time to plan activities, difficulty in understanding how to assess learning within the context of the service-learning activities, developing reflection activities that went beyond a summary of the experiences, and generating support from other teachers in the building. These barriers served to limit both the quality and the scalability of the service-learning approach.

Comparison of These Results with the Research Literature on Implementation

Implementation of service-learning in the New Hampshire sites included all of the components mentioned by Maher and colleagues (1984) including the provision of human and informational resources, materials and funds, and facilities. There was permissible variation and a recognition that the program had value. Implementation of service-learning in New Hampshire proved to have considerable fidelity with quality practice as indicated in the research by Dane and Schneider (1998). The sites generally delivered program elements as prescribed in their applications, received a fair degree of recognition in their state by the State Department of Education and the local media, were rated by external and internal evaluators as having fair to excellent quality, and showed high

degrees of participant responsiveness, particularly in terms of student and teacher engagement and self-efficacy.

The barriers to success in implementation identified in this study were consistent with those presented in the research by Greenberg, Domitrovich, Graczyk, and Zins (2001). Where implementation was of lower quality and, as will be seen, where sustainability was less likely to occur, barriers to success tended to include lack of awareness of service-learning beyond the group implementing it as part of their grant, lack of ongoing professional development, and lack of integration with the school by remaining an after-school program. Problems with communication, lack of preparedness, and other program characteristics mentioned by Greenberg and colleagues did not play roles as a barriers in this study.

SUSTAINABILITY

All of the sites sustained service-learning in some form except the middle school site, whose service-learning activities were discontinued after two years. However, one additional site was in jeopardy of being closed by the district because of its status as an alternative school.

Factors Associated with the Lack of Sustainability

The discontinued site was operated as an after-school program and suffered the consequences of a misunderstanding when there was a change in leadership with the community partner. While both the teachers and students who were involved in the project were committed to service-learning, the politics of the situation led to a break in the relationship with the historical society. Since one of the teachers was going on maternity leave, the other teacher felt that it would be too difficult to continue service-learning by himself as an after-school program given the amount of time it would take to formulate another partnership, new activities, and a new link to curriculum. It was also clear that the political problems that resulted in the termination of this project would make it more difficult for this teacher to initiate something new.

The indicators of sustainability associated with this site show that the site may have had problems sustaining itself whether politics played a role or not. Service-learning was never adopted as part of the regular school curriculum, and no teachers beyond the original two engaged in service-learning. Leadership was not involved in the activities and though the leadership supported service-learning as an after-school program, there had not been any discussion of service-learning as a pedagogy or way of

delivering the curriculum. It was perceived as an add-on, and even though there was significant commitment on the part of both students and the two teachers, there was no expansion of the activity beyond the original concept. When that avenue was closed, there was no other service-learning activity in place. In short, there was a weak support system, no critical mass, a lack of leader commitment, no assessment results that showed tangible evidence that the project was impacting student achievement, and no purposeful plan for expansion. The visibility of the project worked against sustainability when the community partnership took a negative turn.

At the end of three years, one other site, an elementary school that engaged in service-learning to develop guides for a local historical society, was also struggling to continue its service-learning activities. In this case, individual teachers had been engaged in the service-learning activities, but the activities had never been fully integrated into the curriculum, and leaders were never fully engaged in learning about and supporting the service-learning program. This program also involved a historical society. Part of the issue for this program was that no new community need was identified when the project to develop guides for the museum was complete. None of the participants discussed natural next steps with the historical society, nor did they conduct another community needs assessment. Instead, service-learning was entirely project-based and not adopted as a philosophy for teaching and learning.

At the end of four years, the elementary school was still implementing service-learning to a limited extent, but the alternative school was facing serious challenges. While its service-learning approach was strongly supported by the parents of the students in the school, the community as a whole thought the alternative school was too expensive to operate. The principal who clearly lead the school was contemplating a move to another district. Without his leadership and community support, it was not clear that this site would be sustained.

Factors Associated with Sustainability

Ten sites sustained service-learning over four years. The sites that adopted service-learning as a schoolwide practice were the most robust sites. Each of these sites were the ones that had scored highest on the quality review and, with one exception, showed progressively higher scores on the self-assessment each year it was administered.

One school district declined in its self-assessment scores over time. While service-learning activities were still in place after four years, the commitment to service-learning had not increased, and activities, though routinized, were not heartily embraced. Teachers at the site attributed this to

the "top-down" nature of the adoption and implementation processes. They felt that service-learning was the "superintendent's baby." When he left the district, two teachers assumed the mantle of leadership for the service-learning projects, but they had far less influence on the whole group and service-learning became an individually adopted practice rather than part of a schoolwide philosophy.

At the sites where service-learning was thriving, sustainability was clearly connected to continued resources, compatibility with teaching and learning philosophy, visibility of the projects, and evidence of success. Resources sometimes came from grants, but were increasingly matched or assumed as a line item in budgets. Visibility came in the form of media attention, recognition ceremonies, and community presentations. Evidence of success most often took the form of testimonials from teachers, students, and community members, but was considered enhanced when more tangible evidence such as quality assessments or student achievement measures were in place. Since most sites were directly linking their service-learning activities to the New Hampshire Curriculum Frameworks and were seeing that most students were performing at proficient and advanced levels on those assessments, they felt that service-learning was not jeopardizing test scores. They had not conducted any studies to show a direct link between service-learning and achievement, however, and several thought that the type of evidence that would be yielded by a study of this nature would help them to make the case for sustainability. However, in some cases, teachers said that the practice of service-learning was so embedded and valued for so many reasons that it was unnecessary for service-learning to have to "prove itself in that way."

Comparison of These Results with the Research Literature on Sustainability

The sustainability results found here are consistent with those mentioned in the research literature. Similar to what Senge (1990) and Nardi and O'Day (1999) discussed, service-learning was most successfully sustained in schools where its practice became part of the organizational culture and particularly where there was consistency with educational values, existing beliefs about teaching and learning, and views of students' abilities to take responsibility for their own learning. Producing tangible, measurable results was important to these sites, but not as important as other literature on service-learning suggests. This may be because service-learning was seen as an important way to meet challenging standards as a complement to other methods. It may also be that accountability was not as pressing an issue during the time span of the study as it became a few years later.

The challenges to sustainability, identified by Senge (1990) as fear and anxiety, gap between the change initiative and the way in which organizations measure results, and the tendency for change to devolve into perceived threat, did not play a role at these sites. Other factors that serve as a threat to sustainability such as lack of credibility, development of arrogance, psychological isolation, and defensiveness also did not come into play in the non-sustained sites.

The sites did engage in several of the steps identified by Senge (1990) and Nardi and O'Day (1999) to diffuse threats to sustainability. For example, there was clearly flexibility within the schools to accommodate service-learning activities. There was some evidence of mentoring of teachers who adopted service-learning during the second and third years of the project. In several groups, visibility was actively sought including dialogue with those who were not implementing service-learning. There was only one site that "coerced" teachers into adopting service-learning, and this site sustained its service-learning activities. The rest respected the wishes of individual teachers or persuaded them to experiment with service-learning activities on a limited basis. Since service-learning was viewed as compatible with current instructional philosophies, it did not require a large shift in thinking. Teachers were already trained in constructivist teaching, cooperative learning, and other strategies compatible with service-learning, so much of the capacity of the schools to implement service-learning was already in place before the innovation was introduced.

In his discussion of sustainability, Senge (1990) also found that a key to success was the ability to capture lessons learned, best practices, and networks of support and that innovators had at least some autonomy to make changes when and where needed. These factors were all present in the New Hampshire sites. Meetings were convened to share lessons and showcase best practice. Sites used the state staff and each other as networks of support, and most said that they changed their service-learning activities as needed when evaluation results were presented or experience showed that activities were not as successful as they desired.

The empowerment factors mentioned by Schneider, Brief, and Guzzo (1996) were also present at most of these sites. Many teachers and students became passionate about the need for service-learning in the school. Many discussed the notion that those who engaged in service-learning identified strongly with the "program," and several proudly displayed physical signs, such as t-shirts and pins, of their affiliation. However, none of the sites developed specific policies to support service-learning.

The factors identified by Light (1998) in determining sustainability came into play to varying degrees. During the time of the study, educational reform in New Hampshire increasingly focused on standards, and the service-learning activities were intentionally tied to the state's curricu-

lum frameworks. State-level training and technical assistance was available. Funding for the three years was relatively certain.

Staff turnover played little role in sustaining practice in this study. While there was turnaround at the state level and at a few districts, there were other stable systems in place, such as the consistent provision of technical assistance and evaluation by an outside organization that mitigated these potential effects. Most of the internal structures mentioned by Light (1998), such as a relatively flat organizational structure, easy communication, and flexible use of internal resources, were present. The factor of leadership, prominent in Light's research, clearly played a role in sustainability in this study. The stronger the leader's support, the more closely aligned with the leader's beliefs about teaching and learning, and the more direct contact with the program, the greater the schoolwide implementation and sustainability.

CONCLUSIONS: KEY FACTORS LEADING TO SUSTAINABILITY OF SERVICE-LEARNING

Analysis of the data from these sites and a review of the literature leads to identification of eight factors that appear to be the strongest in determining the sustainability of service-learning.

Strong Leadership

Sustained sites had strong leadership that stimulated the development of a shared vision, encouraged action and allegiance to the purpose of the project, engendered a sense of community within the project, and provided continuity and growth through development and implementation of systematic succession plans.

In about half of the sites, after four years, there was clear commitment to continue service-learning for the foreseeable future. In these sites, leaders were familiar with service-learning and supportive of its practice. They discussed service-learning in terms of being consistent with philosophy and beliefs about how students learn best. The vision for service-learning practice was widely shared among teachers and community members who served as partners to the project.

In one case where the top leader changed, service-learning was so embedded in the school (expressed in the school's mission and improvement plan, utilized by over half of the teachers, and recognized as contributing to student personal growth and academic achievement), the new leader was selected in part because of experience with service-learning. While the new leader continued service-learning at this site, the former

principal initiated service-learning at his new site. In another site, where the teacher-leader assumed primary responsibility for all of the service-learning activities across several schools, she tirelessly communicated with district and school leaders, teachers, parents, and community members to keep service-learning at the forefront. Teachers at that site believe that she was the one who almost single-handedly ensured that the practice of service-learning would be sustained over time.

Data from these sites indicate that leadership did not have to come from the top; rather, in many cases, it was the teachers and students who emerged as the decision makers and visible 'magnets' for the program. However, while principals and/or district leaders did not have to serve as leaders for service-learning, they did have to support it. Those sites that did not nurture this type of leadership did not have the same record of sustainability.

Cultural norms and organizational expectations

Sustained sites had strong norms and organizational expectations that simultaneously stressed human interdependence and autonomy, two-way communication systems, appropriate human and fiscal management, feedback loops for identifying and understanding needs and ways to improve continuously, enduring partnerships that featured mutual high regard and reciprocity, mechanisms for problem solving, and strategies for professional growth.

Teachers' simultaneous autonomy and interdependence in implementing service-learning and the enduring partnerships formed with community members were often mentioned as key factors leading to stability of the service-learning practices. Autonomy often occurred because students made the decisions about the content of the service-learning activities, and this student role was recognized and valued as part of the service-learning philosophy. The interdependence notion was expressed by frequent communication among the teachers who practiced service-learning and the finding that a critical mass helped the sustainability at the site. Sustained sites were those that featured regular communication with leaders and the community; used self-assessments and evaluation data for improvement, professional development and/or technical assistance opportunities. When problems occurred, sustaining sites openly discussed them with leaders who were already "on board."

Incentives

Sustained sites had incentives to draw people to service-learning and encourage them to continue practice, generally through a combination of the positive interdependence

and peer influence, creation of social potency ("I can make a difference"), self-efficacy and organizational efficacy, the ability to see the results, and feelings of satisfaction with the efforts.

In these sites, incentives came in the form of recognition and feelings of efficacy and potency. Teachers felt that students had gained important skills and knowledge, confidence, and a feeling that they could make a difference. Feelings of satisfaction with the activities were displayed in every site. Service-learning also tends to produce tangible results in the form of meeting an authentic community need. This too served as a source of great satisfaction.

Visibility

Sustained sites were characterized by visibility so that individuals could easily learn about the service-learning project, understand its purpose and benefits, and support activities.

Many of these sites received media attention for their service-learning activities. This form of visibility was articulated as important to sustainability because it brought a level of positive recognition that was becoming increasingly rare during a period of time when public education was typically discussed in negative terms. In addition, the individual recognition bestowed served to enhance students' satisfaction with the program and its perceived benefits.

In addition, in many of the sustained service-learning sites, t-shirts, buttons, banners, and other forms of identification with service-learning were present. All of the sites engaged in reflection activities, and this became a part of the service-learning "culture," Journal writing, required in about half of the sites, also became ritualized. The language of service-learning, including the use of the terms service-learning and reflection, also served to provide an identity and norms associated with the "program."

Availability of Financial Resources

Sustained sites had sufficient funds, generally from multiple sources.

For these sites, funds initially came from a grant. Over time, costs were absorbed as a typical part of the school or district budget. In addition, in nearly all of the sustaining sites, building or district leadership managed the funds so that they too were aware of the cost and expenditures of the group. Typically since costs were very low and being spent on items that were not unusual for educators, fiscal management was relatively simple.

Management of teachers was the same as it would be for any other educational program.

Other Factors Important in the Age of Standards

Even with these factors in place, in the current era of accountability, service-learning will be sustained only if it produces measurable impacts on student achievement or if it is attached to other valued outcomes such as building character, citizenship, or workplace skills. Wherever it is linked, it will require supportive policies on the national, state, or local levels to ensure that appropriate resources are allocated, professional development can be acquired, and quality of program design are continued.

This study has explored adoption, implementation, and sustainaability of service-learning. The research in the field of organizational development has generally been supported, though a few key differences have been identified. The factors that have been shown to be associated with sustainability in this study should be tested in future research, and the model for sustainability should be refined over time so that it is useful for guiding practice in the field.

REFERENCES

APCO Associates. (1999). *Perceptions: Understanding and responding to what people think about service-learning.* Battle Creek, MI: W. K. Kellogg Foundation.

Bateson, G. (1972). *Steps to an ecology of mind.* New York: Ballentine Books.

Bhaerman, R., Cordell, K., & Gomez, B. (1998). *The role of service-learning in educational reform.* Raleigh, NC: National Society for Experiential Education and Needham, MA: Simon and Shuster, Inc.

Billig, S. (May, 2000). Research on K-12 school-based service-learning: The evidence builds. *Phi Delta Kappan, 81*(9), 658–664.

Elmore, R.F. (1996). Getting to scale with good educational practice. *Harvard Educational Review, 66* (1), 1–26.

Greenberg, M., Domitrovich, C., Graczyk, P., & Zins, J. (2001). *The study of implementation in school-based preventive innovations: Theory, research, and practice.* Paper submitted to the U.S. Department of Health and Human Services.

Hall, G.E., & Hord, S.M. (1987). *Change in schools: Facilitating the process.* Albany: State University of New York Press.

Isaacs, W.N. (1996, January-February). The process and potential of dialogue in social change. *Educational Technology,* 20–30.

Light, P.C. (1998). *Sustaining innovation.* San Francisco: Jossey-Bass.

Melchior, A. (1999). *Summary report: National evaluation of learn and serve America.* Waltham, MA: Center for Human Resources, Brandeis University.

Miles, M.B. (1983, November). Unraveling the mystery of institutionalization. *Educational Leadership,* 14–19.

Moffett, C.A. (April 2000). Sustaining change: The answers are "blowing in the wind." *Educational Leadership, 57*(7), 35–38.

Nardi, B., & O'Day, V. (1999). *Information ecologies.* Cambridge, MA: MIT Press.

National Service-Learning Cooperative. (April, 1998). *Essential elements of service-learning,* St. Paul, MN: National Youth Leadership Council.

Rogers, E.M. (1995). *Diffusion of innovations* (4th ed.). New York: The Free Press.

Roper Starch Worldwide. (November 2000). *Public attitudes toward education and service-learning.*

Saxl, E., Miles, M., & Lieberman, A. (1989). *Assisting change in education. A training program for school improvement facilities: Trainer's manual.* Alexandria, VA: Association for Supervision and Curriculum Development.

Schneider, B., Brief, A.P., & Guzzo, R.A. (1996, spring). Creating a climate and culture for sustainable organizational change. *Organizational Dynamics,* 7–19.

Senge, P. (1990). *The fifth discipline.* New York: Doubleday.

Weiler, D., LaGoy, A., Crane, E., & Rovner, A. (1998). *An evaluation of K-12 service-learning in California: Phase II final report.* Emeryville, CA: RPP International with The Search Institute.

Part V

AFTERWORD

CHAPTER 13

RESEARCH AGENDA FOR K-12 SERVICE-LEARNING

A PROPOSAL TO THE FIELD

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INTRODUCTION

Research on service-learning in higher education is widely available and increasing. There is a journal devoted to its publication (*The Michigan Journal of Community Service-Learning*) and a research agenda established by leading researchers (Giles & Eyler, 1998). The same cannot be said of research on K-12 service-learning. Recent reviews of the literature, such as those by Billig (2000) and Andersen (1999) reveal that there is a relative paucity of research on service-learning in K-12 settings. Most of the published articles and unpublished reports on K-12 service-learning that exist are program evaluations, descriptions, or anecdotes. Studies rarely use randomized assignment and control groups to identify the impacts of service-learning. Variation in program design is often unmeasured. Measurement tools are frequently unvalidated or remain untested for reliability. Qualitative research often lacks triangulation of data.

In addition, some of the larger questions about service-learning in K-12 settings being raised by practitioners and policymakers are only beginning to be addressed. For example, How does service-learning impact student

achievement as measured by a state's accountability system? How does it compare with other interventions? What is the impact of service-learning on students' civic engagement? To what extent does it have a differential impact on the variety of factors associated with citizenship and community involvement? How does service-learning impact communities and schools? What aspects of service-learning are critical to success? What represents quality practice?

In July 2001, a group of researchers[1] convened to discuss the research in K-12 service-learning and to generate a K-12 service-learning research agenda for the next decade to complement the research agenda for higher education. Due to time constraints, their work focused on only three broad areas: impact of service-learning on students' academic achievement, civic engagement, and personal/social development. This chapter presents their recommendations.

SERVICE-LEARNING AND STUDENTS' ACADEMIC PERFORMANCE

The existing research on academic performance includes studies that measure a range of outcomes. For example:

- Akujobi and Simmons (1997) used the Michigan Educational Assessment to compare achievement levels of fourth grade students who participated in service-learning with those who did not. Results showed that service-learning had a statistically significant, positive effect on reading for information and on mathematics;
- Melchior (1999) showed positive short-term impacts of service-learning on school engagement, math and science grades, and grade point average;
- Santmire, Giraud, and Grosskopf (1999) found statistically significant differences in the math scores of the Metropolitan Achievement Test of students randomly assigned to service-learning classes compared to their nonparticipating piers;
- Scales, Blyth, Berkas, and Kielsmeier (2000) showed few effects of service-learning on a cluster of student achievement measures; and
- Weiler, LaGoy, Crane, and Rovner (1998) showed that in about half of the high quality service-learning programs, statistically significant large to moderate educational impacts were found including differences in English/language arts scores, student engagement, homework completion, and sense of educational accomplishment.

Research in this field is best conducted using multiple measures and particularly those calibrated to measure increases in higher order thinking

skills, problem solving, and other cognitive skills that practitioners believe are most highly impacted by service-learning. Other domains likely to be impacted by service-learning participation include ability to apply or transfer knowledge, motivation to learn, and cognitive complexity.

There is a rich body of theories that can contribute to the research on the impacts of service-learning on academic achievement, most particularly the theories connected with constructivism. There are also elements in program design that are likely to moderate the effects of service-learning on its participants. These include dosage (amount of time exposed to service-learning), repeated experiences, instructional process, degree of choice given to students, social context, and the degree of accommodation to students' learning styles.

Questions that should guide the research in the next decade, listed in rank order in terms of priority by the group of researchers, include:

- What is the impact of service-learning on student achievement?

  Does service-learning lead to increased engagement and does this increase lead to improved achievement? How much and what type of participation in service-learning must occur in order to see positive effects? Is there a threshold beyond which additional effects are negligible? What are the characteristics or design factors within the service-learning experience that are connected with the greatest impacts? (These mediating variables can be drawn from the theories that serve as a foundation for the research.) Do different population groups experience different impacts? What is the effect of social context? How are age and stage of youth development related to effects?

- What are the impacts of service-learning on students' acquisition of specific context knowledge and skills?

  How do students' scaffold their knowledge to acquire new knowledge and skills? What service-learning design characteristics (such as reflection techniques or content, direct contact with those being served, student voice, or linkage with curriculum) are associated with the greatest effects on academic achievement? How does service-learning compare to other instructional strategies, such as didactic approaches, in its effects on achievement overall and on specific skills like problem solving? Is service-learning more effective in some content or skill areas than others? In which area does service-learning have no impact or a negative effect? How do teacher characteristics and approaches affect service-learning outcomes? What differences, if any, are associated with age and stage of youth development?

- What are the impacts of service-learning on the development of critical thinking skills?

  How does service-learning impact organizational thinking, depth of reasoning, recall, ability to identify alternative solutions, ability to apply multiple strategies, metacognition, problem representation, and solving ill-structured problems? Are results the same for each content area?
- Are the cognitive processes involved in service-learning different for acquisition of critical thinking skills and content knowledge?
- To what extent does service-learning impact lifelong learning?

  How does service-learning affect intellectual curiosity, educational attainment, intrinsic motivation, how students react when they fail, and the level of feedback they desire?

CIVIC ENGAGEMENT

The existing research on K-12 civic engagement and service-learning reveals substantial ambiguity in the use of terms and theoretical frameworks. Examples of recent studies representing the range of conceptualization include the following:

- Youniss, McClellan, and Yates (1997) reviewed studies of youth participation in organized activities and civic behaviors and found that students who participated in community service projects were more likely than nonparticipants to vote and join community organizations 15 years later;
- Tolo (1999) showed that young people who participated in service-learning became more "civic-minded," learned they could improve their community by working through civic and political processes, learned about local government and policy, and acquired valuable communication and research skills;
- Yates and Youniss (1997) and Morgan and Streb (1999) found that high school students who participated in high quality service-learning programs developed more sophisticated understandings of socio-historical contexts, were likely to think about politics and morality in society, and were likely to consider how to affect social change; and
- Stephens (1995) reported that elementary and middle school students who participated in service-learning developed a greater sense of civic responsibility and ethic of service.

The K-12 service-learning research will necessarily be influenced by the effects of being in the K-12 setting. Some issues associated with civic devel-

opment may be difficult to investigate because they are viewed as topics that are too "political." There is also a great need to identify specific elements and concepts related to civic engagement, democracy, and citizenship so that a body of research evidence can be accumulated. The research should draw upon theories of democracy, citizenship, political philosophy, identity development, social justice, social movements, and political mobilization. The focus of the research could be on those activities that educators and policymakers identified as effective strategies for promoting civic development and could examine how service-learning may make those activities more efficacious.

Questions that should guide the research in the next decade, in prioritized order according to the research group, include:

- How are various conceptions of citizenship put into the educational practice of service-learning?
- In what ways does service-learning, relative to other prominent models for civic engagement, further the development of students' civic capacities (for example, civic awareness, civic skills, or knowledge of government) and commitments (for example, political participation or intentions)?
- What service-learning program components, such as youth voice, meaningful service, linkage to curriculum, and reflection, serve as the most powerful predictors of desired citizenship outcomes?
- How do various societal institutions such as schools, communities, community-based organizations, and families, shape the design, implementation, and impacts of service-learning strategies?
- How do commitments to civic development, such as those expressed in school or instructional mission, and resulting service-learning activities, influence social institutions in which service-learning takes place?
- How does age and stage of development of service-learning participants influence outcomes?
- How does school context (such as high stakes testing, cultural diversity, and charter versus traditional public school) influence results of service-learning on civic development?
- How do preexisting conceptions of civic development mediate service-learning outcomes?

Personal/Social Development

The K-12 service-learning research contains more studies of the effects of service-learning on personal and social development of students than

any other area of study. Examples of existing research that address personal and/or social development include the following:

- Johnson and Notah (1999) describe the results of a pilot study conducted with 156 primarily Hispanic middle school students who engaged in service-learning activities as part of their advisory and science classes. They found positive but statistically insignificant effects on students' self-esteem and personal responsibility as a result of their participation in service-learning;
- Kirby (2001) examined more than 250 primary prevention program evaluations to identify programs associated with prevention of teen pregnancy. He found that service-learning program evaluations provided the strongest evidence of pregnancy prevention of any of the programs studied;
- Scales et al. (2000) studied 29 schools with quality service-learning programs and found that students who participated in service-learning were more likely than their nonparticipating peers to show concern for others' welfare and efficacy in helping others;
- Billig (2000) in her review of the research on K-12 service-learning, cited numerous studies that showed the impact of service-learning in producing increased personal and social responsibility and sense of competence (Weiler et al., 1998), sense of self-esteem and self-efficacy (Shaffer, 1993), and acceptance of responsibility (Stephens, 1995);
- Morgan and Streb (1999) found that students who engaged in service-learning showed greater empathy than comparison groups;
- Melchior (1999) showed that students who engage in quality service-learning programs reported greater acceptance of cultural diversity; and
- Loesch-Griffin, Petrides, and Pratt (1995) found that students who participated in service-learning enjoyed helping others, were perceived as more dependable by others, and felt more comfortable communicating with ethnically diverse groups.

Theorists who provide potential explanatory frameworks for service-learning include Erich Fromm, Abraham Maslow, Albert Bandura, and Erik Erikson. Key to the research is developing an understanding of the ways in which the service-learning experience fits with and meets individual developmental needs in ways that are particularly valuable. There are also gaps in the current research in the areas of prosocial behaviors and altruism, intergroup relations, self-efficacy/capacity, and resilience.

Questions for the research agenda, in order of priority established by the research group, include:

- What are the programmatic factors of service-learning that are the strongest predictors for positive personal and social development? Programmatic factors might include reflection, duration and intensity of service, group/individual, project structure, degree of curricular integration, type of service, nature of working groups, learning and service goals, and extent of institutionalization.
- How does service-learning impact individual students? How does service-learning impact students with differing social and academic capabilities?
- Does participation in service-learning have an impact on developmental assets? If so, what are they?
- Does service-learning have an impact on prosocial values and behavior and if so, is this relationship mediated by social connectedness?

  Social connectedness includes, for example, connection to others doing service, to the school community, within the community-based organization or neighborhood served, or to the service recipient. Investigations of this question need to examine different kinds of social connectedness and different kinds of service-learning experiences.

- What are the student background factors of service-learning that are strong predictors for positive personal and social development?
- What is the role of student motivation for service-learning participation on the developmental outcomes of service-learning programs, with particular attention to the role of student-program fit, satisfaction of initial student goals, and change in goals in program participation?
- Does participation in service-learning have an impact on acceptance of diversity?

  What is the role of reflection in moderating the relationship between participation in service-learning and acceptance of diversity? What is the role of type of service-learning experience on acceptance of diversity?

- What is the role of teacher characteristics that impact strong positive personal and social development in service-learning students?
- How does service-learning illuminate the theory of identity formation in adolescence?
- What is a sensitive measure of the development of altruism in a service-learning context?

Next Steps

Research in K-12 service-learning is badly needed to advance the field. The group that formulated this agenda will vet it in multiple forums and intends to translate it into meaningful propositions and hypotheses for study. Funders are actively being sought. The reader is encouraged to formulate research consistent with this agenda so that a body of evidence about the effects of service-learning can be built and service-learning approaches can be improved. Parallel research to the more robust studies in higher education is also encouraged. Future editions of this book series will feature the results of these studies.

NOTE

1. Researchers in this group formulated this Research Agenda and should be given full credit for the thinking reflected here. Researchers included, in alphabetical order: Susan Andersen, Lawrence Bailis, Shelley Billig, Andrej Birjulin, Janet Eyler, Melinda Fine, Andrew Furco, Deborah Hecht, Joseph Kahne, Kristin Kleimann, Mary Klute, Deborah Loesch-Griffin, Malaika McKee, Alan Melchior, Stephen Meyer, William Morgan, Lance Potter, Ivor Pritchard, Susan Root, Kathryn Sandel, Robert Shumer, Alan Waterman, Joel Westheimer, James Youniss.

REFERENCES

Akujobi, C., & Simmons, R. (1997). An assessment of elementary school service-learning teaching methods: Using service-learning goals. *NSEE Quarterly, 23*(2), 19–28.

Andersen, S.M. (1998). *Service-learning: A national strategy for youth development.* A position paper issued by the Education Policy Task Force, Institute for Communitarian Policy Studies, George Washington University.

Billig, S.H. (2000, May). Research on K-12 school-based service-learning: The evidence builds. *Phi Delta Kappan, 81*(9), 658–664.

Giles, D.E., & Eyler, J. (1998, spring). A service learning research agenda for the next five years. *New Directions for Teaching and Learning, 73*, 65–71.

Johnson, A.M., & Notah, D.J. (1999). Service-learning: history, literature, and a pilot study of eighth graders. *The Elementary School Journal*, 99(5), 453–467.

Kirby, D. (May, 2001). *Emerging answers: Research findings on programs to reduce teen pregnancy.* Washington DC: National Campaign to Prevent Teen Pregnancy.

Loesch-Griffin, D., Petrides, L.A., & Pratt, C. (1995). *A comprehensive study of project yes-rethinking classrooms and community: Service-learning as educational reform.* San Francisco: East Bay Conservation Corps.

Melchior, A. (1999). *Summary report: National evaluation of learn and serve America.* Waltham, MA: Center for Human Resources, Brandeis University.

Morgan, W., & Matthew, S. (1999). *How quality service-learning develops civic values.* Bloomington: Indiana University.

Santmire, T., Giraud, G., & Grosskopf, K. (1999, April). *Further attainment of academic standards through service-learning.* Paper presented at the National Service-Learning Conference, San Jose, CA.

Scales, P.C., Blyth, D.A., Berkas, T.H., & Kielsmeier, J.C. (2000). The effects of service-learning on middle school students' social responsibility and academic success. *Journalof Early Adolescence, 20,* 332–358.

Shaffer, B. (1993). *Service-learning: An academic methodology.* Stanford (CA) University Department of Education cited in R. Bhaerman, K. Cordell, & B. Gomez (1998). *The role of service-learning in educational reform.* Raleigh, NC: National Society for Experiential Education and Needham, MA: Simon and Shuster, Inc.

Stephens, L. (1995). *The complete guide to learning through community service, grades K-9.* Boston, MA: Allyn and Bacon Publishers.

Tolo, K.W. (1999). *The civic education of american youth.* Austin, TX: The University of Texas, Lyndon B. Johnson School of Public Affairs.

Weiler, D., LaGoy, A., Crane, E., & Rovner, A. (1998). *An evaluation of K-12 service-learning in California: Phase II final report.* Emeryville, CA: RPP International with The Search Institute.

Yates, M., & Youniss, J. (1997). Community service and political identity development in adolescence. *Journal of Social Issues, 54*(3), 495–512.

Youniss, J., McLellan, I.A., & Yates, M. (1997). What we know about engendering civic identity. *American Behavioral Scientist, 40,* 620–631.

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